

Robustness of radiomic features in CT images with different slice thickness, comparing liver tumour and muscle

February 5, 2021

Lorena Escudero Sanchez, Leonardo Rundo, Andrew B. Gill, Matthew Hoare,
Eva Mendes Serrao, Evis Sala

Supplementary Material

List of Figures

| | | |
|-----|--|----|
| SF1 | Radiomic features (Y) for different number of grey levels used in the calculation (X) in CT images with 2.0mm slice thickness, resampled to voxel size (1,1,1) mm, for liver tumour (red) and muscle (blue). Each dot (marker) represents one patient. | 7 |
| SF2 | Radiomic features (Y) for different number of grey levels used in the calculation (X) in CT images with 2.0mm slice thickness, resampled to voxel size (1,1,1) mm, for liver tumour (red) and muscle (blue). Each dot (marker) represents one patient. | 8 |
| SF3 | Radiomic features (Y) for different number of grey levels used in the calculation (X) in CT images with 2.0mm slice thickness, resampled to voxel size (1,1,1) mm, for liver tumour (red) and muscle (blue). Each dot (marker) represents one patient. | 9 |
| SF4 | Examples of features that present a pathological behaviour for extreme values of the resampling, either for the smallest one tested, (0.5,0.5,0.5)mm, in the top row, or the largest ones, (1.75,1.75,1.75)mm and (2,2,2)mm, in the bottom row. This behaviour is observed through a significant change of the r_S (Y axis) extracted from the feature values as a function of the number of voxels (see Supplementary Figures SF5-SF8). Each TestID represents a different voxel size, with 0 being the original (i.e. no resampling) and following triadas of linear-spline-welch interpolation methods. . . | 10 |
| SF5 | Values of the feature GLCM IMC1 (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column. | 11 |
| SF6 | Values of the feature GLDM DependenceEntropy (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column. | 12 |
| SF7 | Values of the feature GLCM DifferenceEntropy (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column. | 13 |

| | | |
|------|--|----|
| SF8 | Values of the feature GLRLM RunEntropy (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column. | 14 |
| SF9 | Matrices of Spearman's rank correlation coefficient showing pairwise correlations between the features before (left column) and after (right column) correcting the dependencies of features with the number of voxels for the tumour VOIs calculated in CT images with reconstructed slice thickness of 2mm (top row) and 5mm (bottom row) and the original voxel size (i.e. no resampling). Feature ID in this Figure follows the one in Supplementary Table ST3. | 15 |
| SF10 | Matrices of Spearman's rank correlation coefficient showing pairwise correlations between the features before (left column) and after (right column) correcting the dependencies of features with the number of voxels for the muscle VOIs calculated in CT images with reconstructed slice thickness of 2mm (top row) and 5mm (bottom row) and the original voxel size (i.e. no resampling). Feature ID in this Figure follows the one in Supplementary Table ST3. | 16 |

List of Tables

| | | |
|------|---|----|
| ST1 | CT acquisition parameters for the images used in this paper. . . . | 6 |
| ST2 | Patient demographics of the studies analysed in this paper. . . . | 6 |
| ST3 | Values of ICC(3,1) for muscle and tumour, in 2mm and 5mm slices, independently. Those features with ICC(3,1) < 0.9 are considered correlated, except the ones shown in blue, for which only one value appears just below 0.9 in the four cases, and therefore are treated as fluctuations. | 17 |
| ST4 | Values of ICC(3,1) for muscle and tumour, in 2mm and 5mm slices, independently. Those features with ICC(3,1) < 0.9 are considered correlated, except the ones shown in blue, for which only one value appears just below 0.9 in the four cases, and therefore are treated as fluctuations. | 18 |
| ST5 | Median values of Spearman's rank correlation coefficient (r_S), across different non-extreme voxel size resampling and interpolation method, for features found correlated ($r_S > 0.5$) with the number of voxels. High correlations are shown in red ($r_S > 0.75$) and medium in blue ($0.75 > r_S > 0.5$) | 19 |
| ST6 | Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness (Δ_r), across different non-extreme voxel size resampling and interpolation method, before correcting for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red. | 20 |
| ST7 | Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness (Δ_r), across different non-extreme voxel size resampling and interpolation method, before correcting for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red. | 21 |
| ST8 | Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness (Δ_r), across different non-extreme voxel size resampling and interpolation method, after correcting certain features for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red. | 22 |
| ST9 | Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness ($\Delta_{r,o}$), across different non-extreme voxel size resampling and interpolation method, after correcting certain features for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red. | 23 |
| ST10 | Median values of the relative difference between the values of the feature ratios (tumour over muscle) computed in images with 2mm and 5mm slice thickness ($\Delta_{\rho,r}$), across different non-extreme voxel size resampling and interpolation method. Values $\Delta_{\rho,r} \geq 0.5$ are shown in red. | 24 |

| | | |
|------|--|----|
| ST11 | Median values of the relative difference between the values of the feature ratios (tumour over muscle) computed in images with 2mm and 5mm slice thickness ($\Delta_{\rho,r}$), across different non-extreme voxel size resampling and interpolation method. Values $\Delta_{\rho,r} \geq 0.5$ are shown in red. | 25 |
|------|--|----|

| | 2mm series | 5mm series |
|-------------------------------------|--|-------------------------------|
| Vendor | SIEMENS | |
| Model | Sensation 64 (19), Sensation 16 (5) SOMATOM Definition Flash (19) | |
| Reconstruction kernel | B20f | B20f (19), B30f (24) |
| Reconstruction diameter (mm) | 290 - 473 (average 376.16) | 290 - 473 (average 376.23) |
| KVP | 120 | |
| Exposure | 46 - 340 (average 150.19) | 46 - 342 (average 149.39) |
| Matrix size (pixels) | 512x512 | |
| Slice thickness (mm) | 2.0 | 5.0 |
| Pixel width (mm) | 0.566 - 0.924 (average 0.735) | |

Table ST1: CT acquisition parameters for the images used in this paper.

| | Range |
|---|---|
| Patient age at transplant (years) | 41.88 - 67.60 (average 55.52) |
| Patient gender | Male (35), Female (8) |
| Previous treatment | 1x Trans-arterial embolisation, rest none |
| Primary liver disease (prior to HCC) | Hepatitis C cirrhosis (26), Non-alcoholic fatty liver disease (6), Alcoholic liver disease (4), Hepatitis B cirrhosis (4), Autoimmune hepatitis (1), Cryptogenic cirrhosis (1), Primary biliary cirrhosis (1) |

Table ST2: Patient demographics of the studies analysed in this paper.

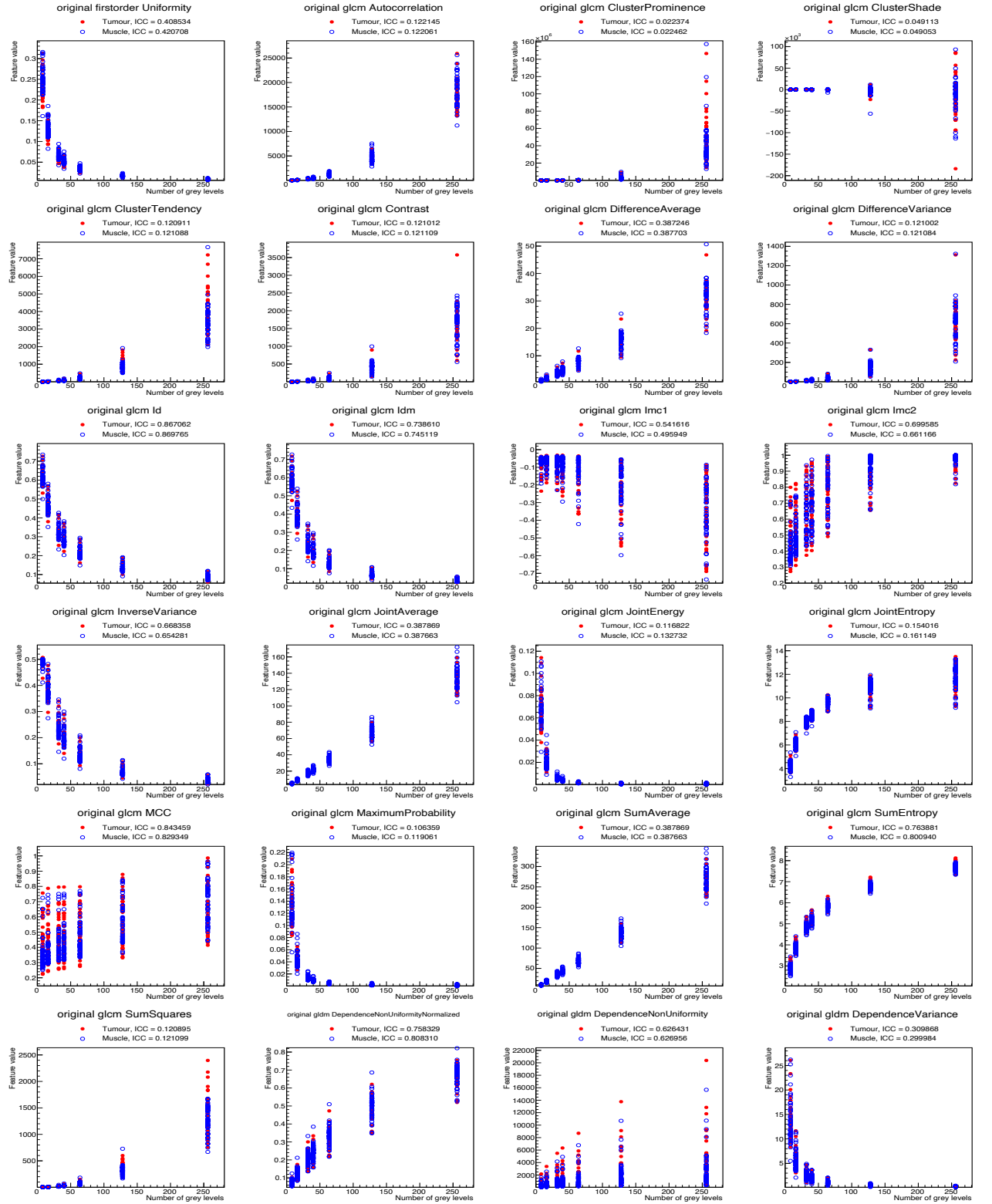


Figure SF1: Radiomic features (Y) for different number of grey levels used in the calculation (X) in CT images with 2.0mm slice thickness, resampled to voxel size (1,1,1) mm, for liver tumour (red) and muscle (blue). Each dot (marker) represents one patient.

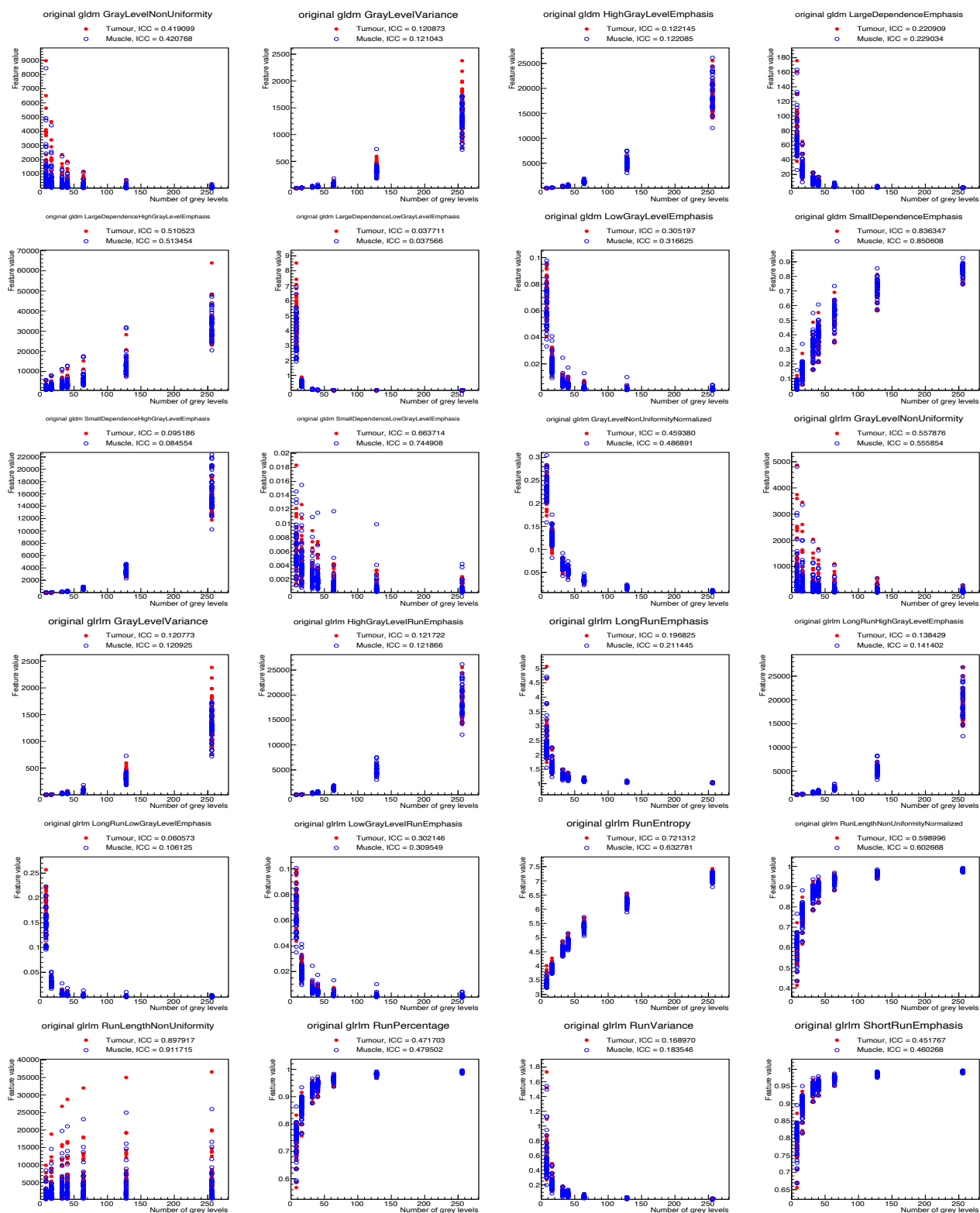


Figure SF2: Radiomic features (Y) for different value number of grey levels used in the calculation (X) in CT images with 2.0mm slice thickness, resampled to voxel size (1,1,1) mm, for liver tumour (red) and muscle (blue). Each dot (marker) represents one patient.

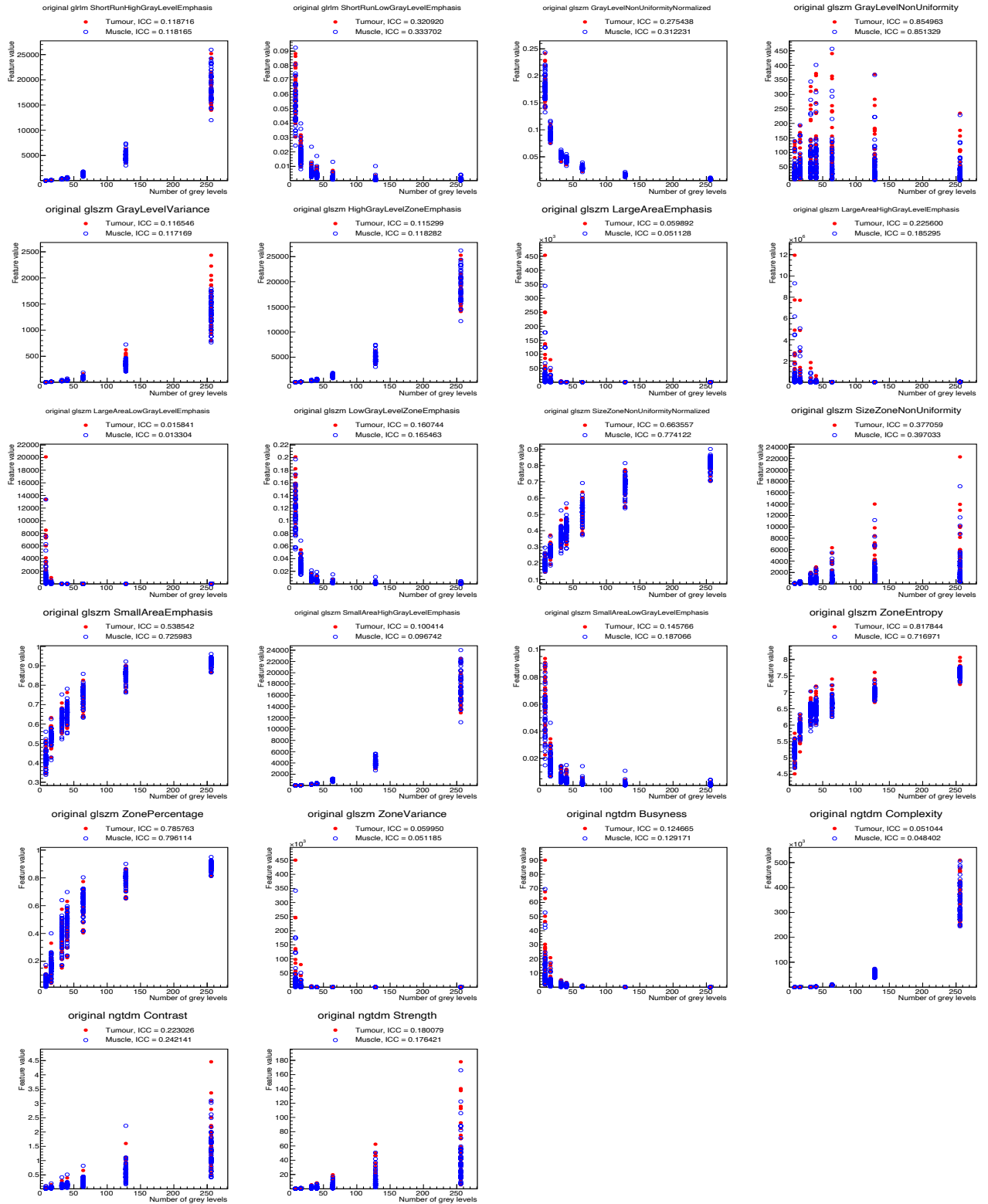


Figure SF3: Radiomic features (Y) for different number of grey levels used in the calculation (X) in CT images with 2.0mm slice thickness, resampled to voxel size (1,1,1) mm, for liver tumour (red) and muscle (blue). Each dot (marker) represents one patient.

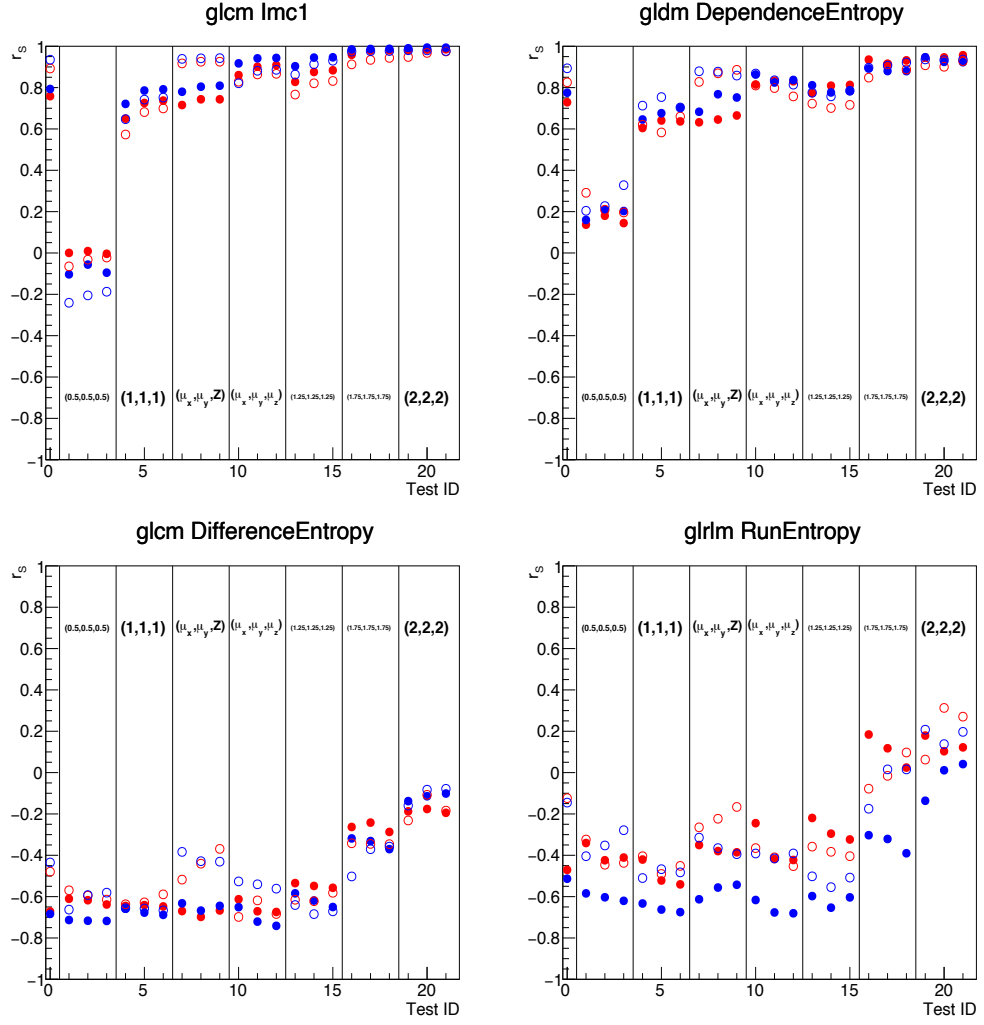


Figure SF4: Examples of features that present a pathological behaviour for extreme values of the resampling, either for the smallest one tested, (0.5,0.5,0.5)mm, in the top row, or the largest ones, (1.75,1.75,1.75)mm and (2,2,2)mm, in the bottom row. This behaviour is observed through a significant change of the r_s (Y axis) extracted from the feature values as a function of the number of voxels (see Supplementary Figures SF5-SF8). Each TestID represents a different voxel size, with 0 being the original (i.e. no resampling) and following triadas of linear-spline-welch interpolation methods.

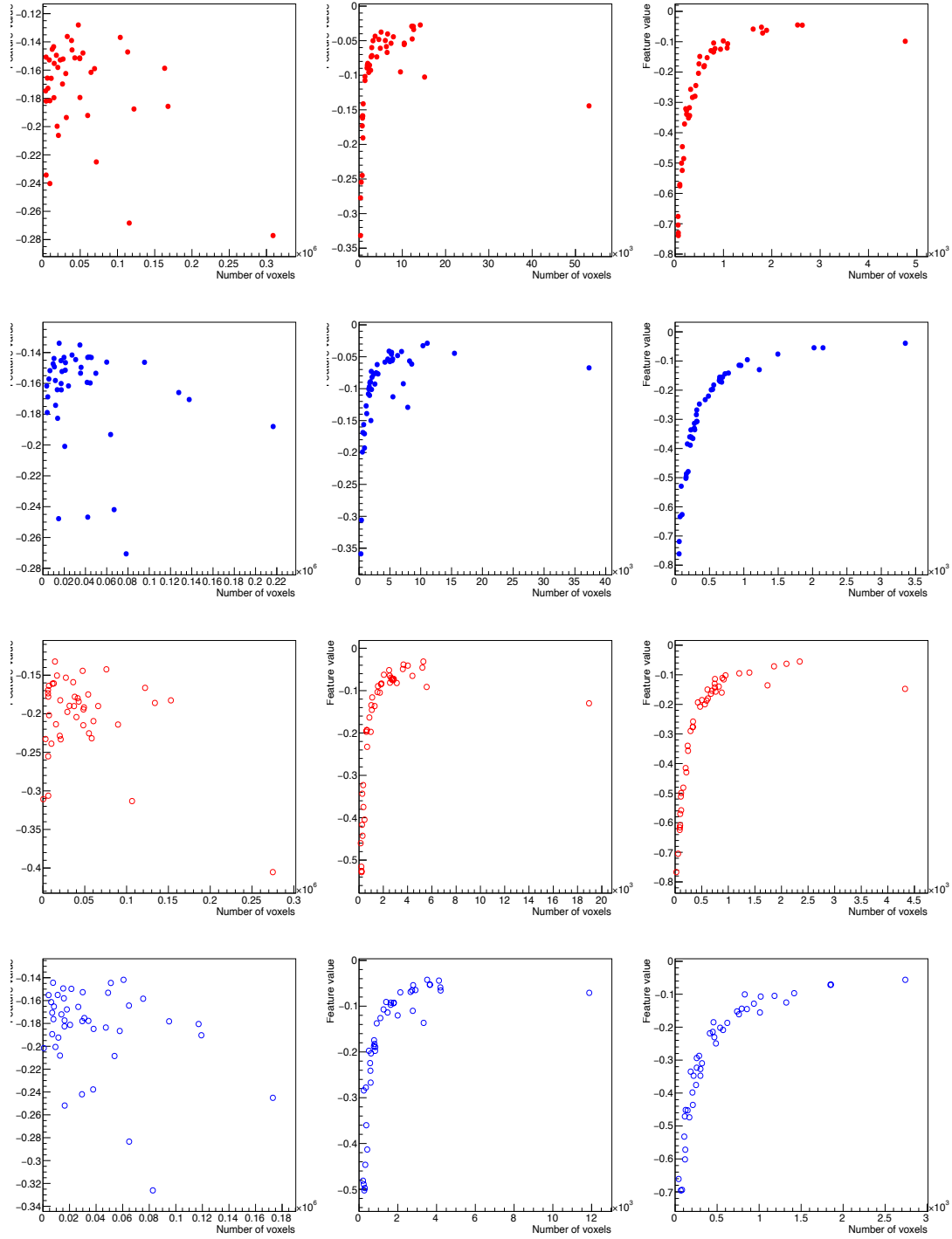


Figure SF5: Values of the feature GLCM IMC1 (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column.

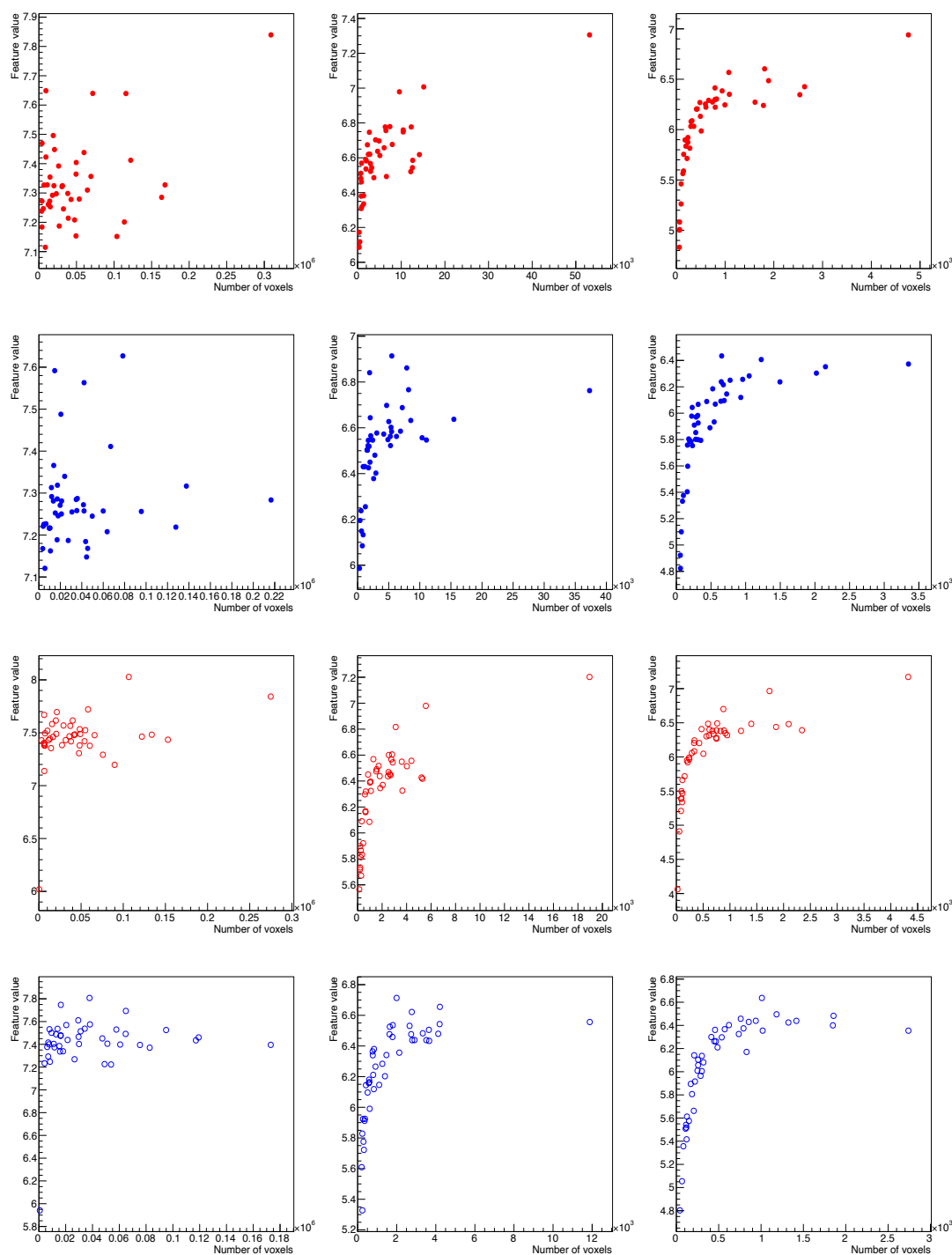


Figure SF6: Values of the feature GLDM DependenceEntropy (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column.

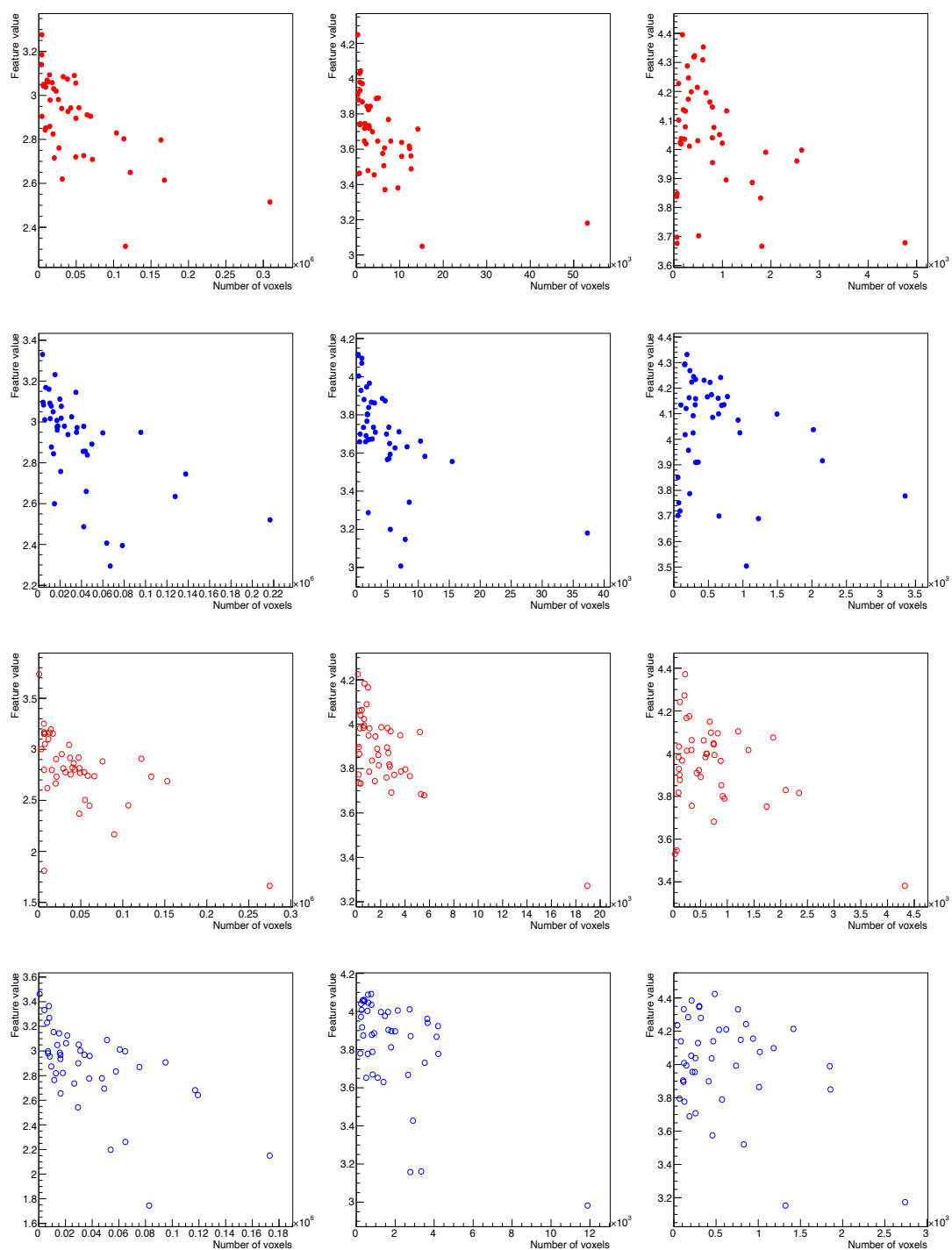


Figure SF7: Values of the feature GLCM DifferenceEntropy (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column.

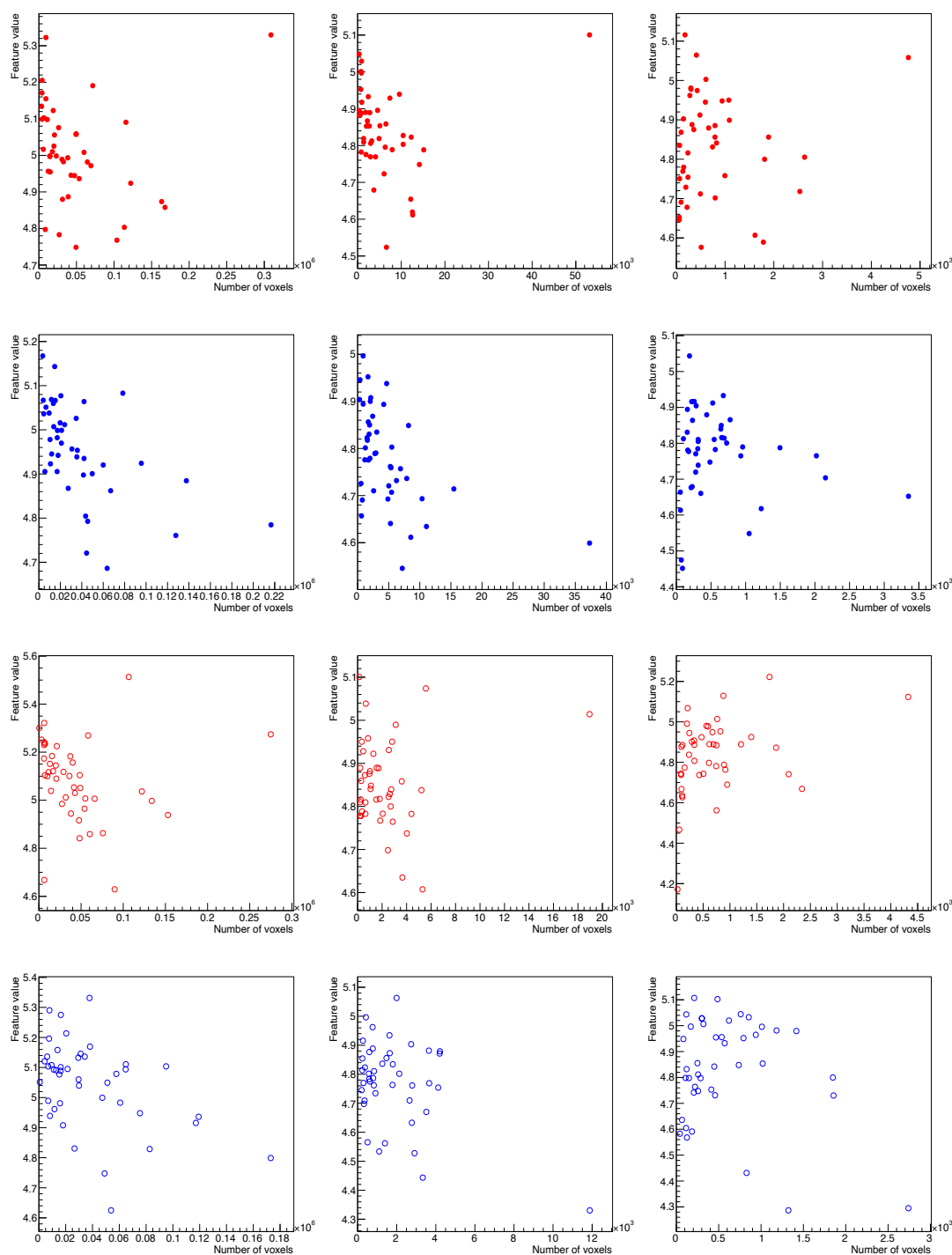


Figure SF8: Values of the feature GLRLM RunEntropy (each marker represents a patient) for tumour (red) and muscle (blue) in images with 2mm (solid markers, top two rows) and 5mm (hollow markers, bottom two rows) slice thickness. A comparison is presented for the values computed with a voxel size of (0.5,0.5,0.5)mm on the left column, vs the original voxel sizes on the middle column, and (2.0,2.0,2.0)mm on the right column.

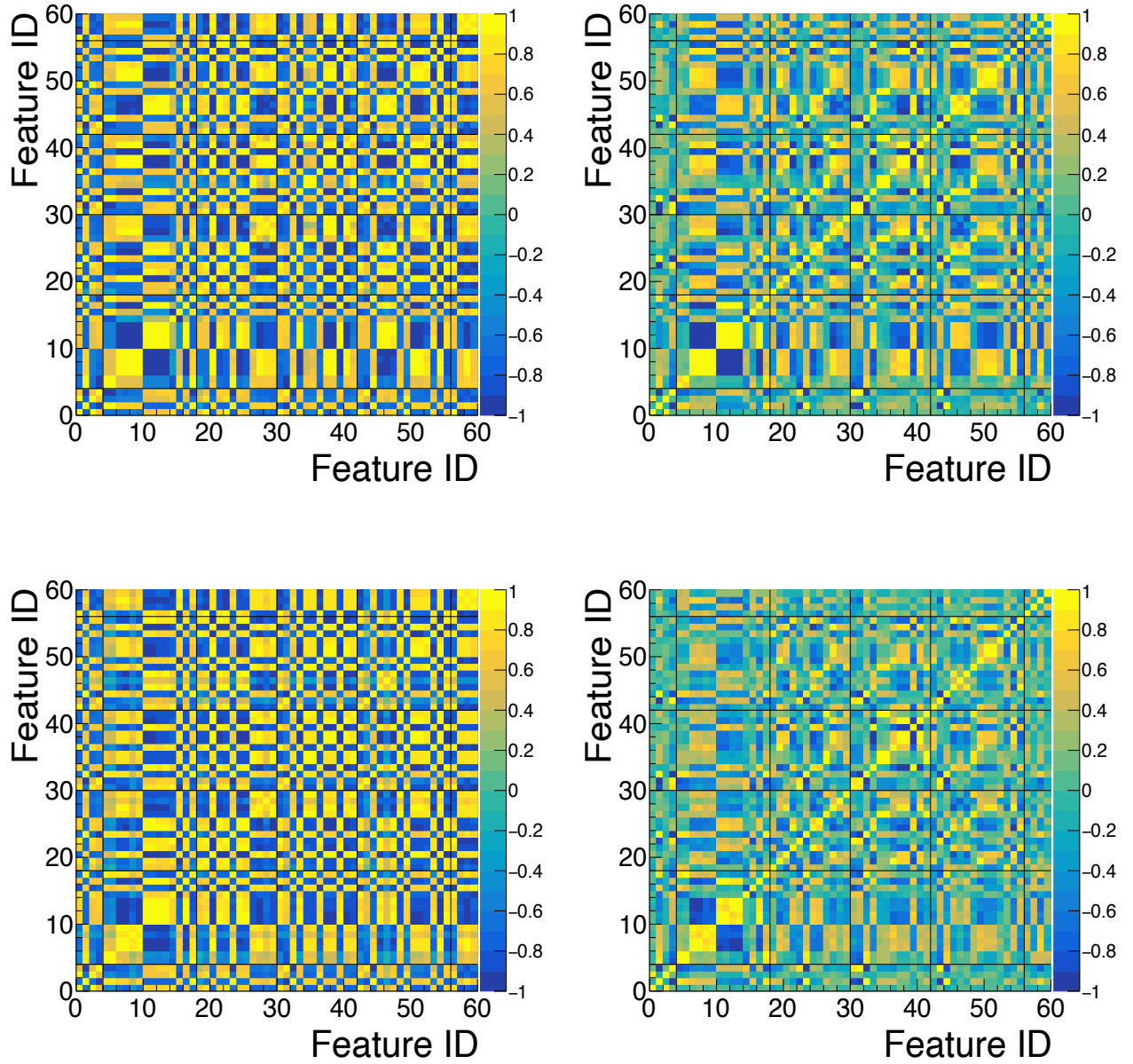


Figure SF9: Matrices of Spearman's rank correlation coefficient showing pairwise correlations between the features before (left column) and after (right column) correcting the dependencies of features with the number of voxels for the **tumour** VOIs calculated in CT images with reconstructed slice thickness of 2mm (top row) and 5mm (bottom row) and the original voxel size (i.e. no re-sampling). Feature ID in this Figure follows the one in Supplementary Table ST3.

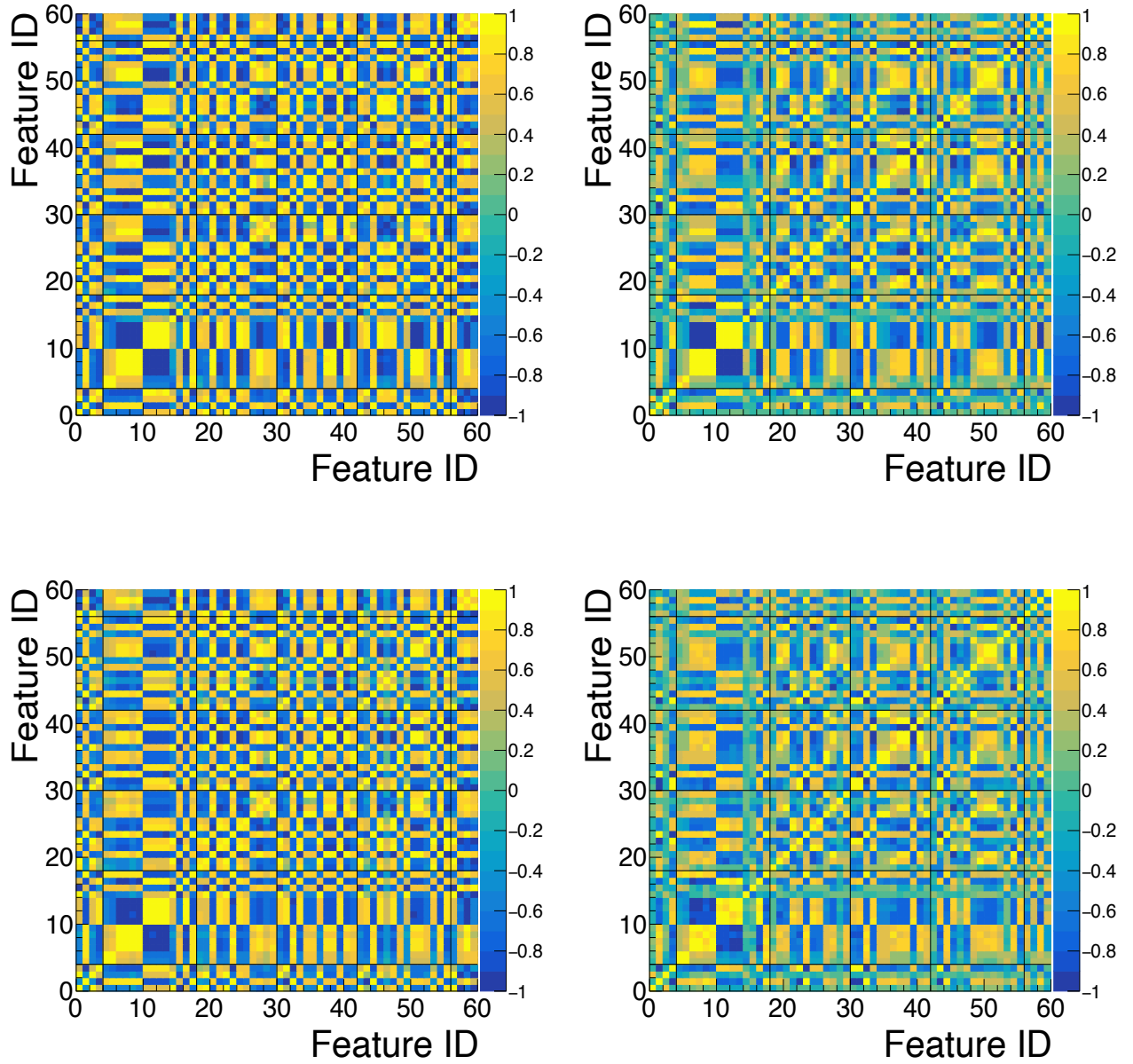


Figure SF10: Matrices of Spearman's rank correlation coefficient showing pairwise correlations between the features before (left column) and after (right column) correcting the dependencies of features with the number of voxels for the **muscle** VOIs calculated in CT images with reconstructed slice thickness of 2mm (top row) and 5mm (bottom row) and the original voxel size (i.e. no resampling). Feature ID in this Figure follows the one in Supplementary Table ST3.

| Feature | ICC tumour (2mm) | ICC muscle (2mm) | ICC tumour (5mm) | ICC muscle (5mm) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| firstorder Entropy | 0.930 | 0.966 | 0.877 | 0.961 |
| firstorder Uniformity | 0.409 | 0.421 | 0.430 | 0.435 |
| glcm Autocorrelation | 0.122 | 0.122 | 0.122 | 0.122 |
| glcm ClusterProminence | 0.022 | 0.022 | 0.022 | 0.022 |
| glcm ClusterShade | 0.049 | 0.049 | 0.049 | 0.049 |
| glcm ClusterTendency | 0.121 | 0.121 | 0.121 | 0.121 |
| glcm Contrast | 0.121 | 0.121 | 0.121 | 0.121 |
| glcm DifferenceAverage | 0.387 | 0.388 | 0.388 | 0.387 |
| glcm DifferenceVariance | 0.121 | 0.121 | 0.121 | 0.121 |
| glcm Id | 0.867 | 0.870 | 0.892 | 0.897 |
| glcm Idm | 0.739 | 0.745 | 0.787 | 0.797 |
| glcm Imc1 | 0.542 | 0.496 | 0.590 | 0.485 |
| glcm Imc2 | 0.700 | 0.661 | 0.718 | 0.670 |
| glcm InverseVariance | 0.668 | 0.654 | 0.495 | 0.542 |
| glcm JointAverage | 0.388 | 0.388 | 0.388 | 0.388 |
| glcm JointEnergy | 0.117 | 0.133 | 0.160 | 0.161 |
| glcm JointEntropy | 0.154 | 0.161 | 0.408 | 0.391 |
| glcm MCC | 0.843 | 0.829 | 0.873 | 0.822 |
| glcm MaximumProbability | 0.106 | 0.119 | 0.185 | 0.191 |
| glcm SumAverage | 0.388 | 0.388 | 0.388 | 0.388 |
| glcm SumEntropy | 0.764 | 0.801 | 0.781 | 0.893 |
| glcm SumSquares | 0.121 | 0.121 | 0.121 | 0.121 |
| gldm DependenceEntropy | 0.920 | 0.899 | 0.979 | 0.962 |
| gldm DependenceNonUniformity | 0.626 | 0.627 | 0.622 | 0.617 |
| gldm DependenceNonUniformityNormalized | 0.758 | 0.808 | 0.856 | 0.849 |
| gldm DependenceVariance | 0.310 | 0.300 | 0.374 | 0.393 |
| gldm GrayLevelNonUniformity | 0.419 | 0.421 | 0.434 | 0.428 |
| gldm GrayLevelVariance | 0.121 | 0.121 | 0.121 | 0.121 |
| gldm HighGrayLevelEmphasis | 0.122 | 0.122 | 0.122 | 0.122 |
| gldm LargeDependenceEmphasis | 0.221 | 0.229 | 0.280 | 0.287 |
| gldm LargeDependenceHighGrayLevelEmphasis | 0.511 | 0.513 | 0.545 | 0.541 |
| gldm LargeDependenceLowGrayLevelEmphasis | 0.038 | 0.038 | 0.046 | 0.053 |
| gldm LowGrayLevelEmphasis | 0.305 | 0.317 | 0.374 | 0.277 |
| gldm SmallDependenceEmphasis | 0.836 | 0.851 | 0.854 | 0.842 |
| gldm SmallDependenceHighGrayLevelEmphasis | 0.095 | 0.085 | 0.068 | 0.082 |
| gldm SmallDependenceLowGrayLevelEmphasis | 0.664 | 0.745 | 0.694 | 0.529 |
| glrlm GrayLevelNonUniformity | 0.558 | 0.556 | 0.620 | 0.608 |
| glrlm GrayLevelNonUniformityNormalized | 0.459 | 0.487 | 0.500 | 0.540 |
| glrlm GrayLevelVariance | 0.121 | 0.121 | 0.121 | 0.121 |
| glrlm HighGrayLevelRunEmphasis | 0.122 | 0.122 | 0.122 | 0.122 |
| glrlm LongRunEmphasis | 0.197 | 0.211 | 0.164 | 0.196 |
| glrlm LongRunHighGrayLevelEmphasis | 0.138 | 0.141 | 0.153 | 0.148 |
| glrlm LongRunLowGrayLevelEmphasis | 0.061 | 0.106 | 0.059 | 0.047 |
| glrlm LowGrayLevelRunEmphasis | 0.302 | 0.310 | 0.367 | 0.269 |
| glrlm RunEntropy | 0.721 | 0.633 | 0.656 | 0.646 |
| glrlm RunLengthNonUniformity | 0.898 | 0.912 | 0.842 | 0.884 |
| glrlm RunLengthNonUniformityNormalized | 0.599 | 0.603 | 0.658 | 0.670 |

Table ST3: Values of ICC(3,1) for muscle and tumour, in 2mm and 5mm slices, independently. Those features with ICC(3,1) < 0.9 are considered correlated, except the ones shown in blue, for which only one value appears just below 0.9 in the four cases, and therefore are treated as fluctuations.

| Feature | ICC tumour (2mm) | ICC muscle (2mm) | ICC tumour (5mm) | ICC muscle (5mm) |
|--|---------------------|---------------------|---------------------|---------------------|
| glrlm RunPercentage | 0.472 | 0.480 | 0.538 | 0.555 |
| glrlm RunVariance | 0.169 | 0.184 | 0.139 | 0.171 |
| glrlm ShortRunEmphasis | 0.452 | 0.460 | 0.512 | 0.531 |
| glrlm ShortRunHighGrayLevelEmphasis | 0.119 | 0.118 | 0.117 | 0.118 |
| glrlm ShortRunLowGrayLevelEmphasis | 0.321 | 0.334 | 0.389 | 0.295 |
| glszm GrayLevelNonUniformity | 0.855 | 0.851 | 0.767 | 0.779 |
| glszm GrayLevelNonUniformityNormalized | 0.275 | 0.312 | 0.271 | 0.314 |
| glszm GrayLevelVariance | 0.117 | 0.117 | 0.115 | 0.117 |
| glszm HighGrayLevelZoneEmphasis | 0.115 | 0.118 | 0.118 | 0.118 |
| glszm LargeAreaEmphasis | 0.060 | 0.051 | 0.091 | 0.072 |
| glszm LargeAreaHighGrayLevelEmphasis | 0.226 | 0.185 | 0.412 | 0.282 |
| glszm LargeAreaLowGrayLevelEmphasis | 0.016 | 0.013 | 0.022 | 0.021 |
| glszm LowGrayLevelZoneEmphasis | 0.161 | 0.165 | 0.193 | 0.155 |
| glszm SizeZoneNonUniformity | 0.377 | 0.397 | 0.341 | 0.354 |
| glszm SizeZoneNonUniformityNormalized | 0.664 | 0.774 | 0.847 | 0.857 |
| glszm SmallAreaEmphasis | 0.539 | 0.726 | 0.779 | 0.830 |
| glszm SmallAreaHighGrayLevelEmphasis | 0.100 | 0.097 | 0.089 | 0.094 |
| glszm SmallAreaLowGrayLevelEmphasis | 0.146 | 0.187 | 0.327 | 0.242 |
| glszm ZoneEntropy | 0.818 | 0.717 | 0.837 | 0.776 |
| glszm ZonePercentage | 0.786 | 0.796 | 0.799 | 0.796 |
| glszm ZoneVariance | 0.060 | 0.051 | 0.092 | 0.072 |
| ngtdm Busyness | 0.125 | 0.129 | 0.125 | 0.130 |
| ngtdm Coarseness | 0.986048 | 0.987755 | 0.873 | 0.950 |
| ngtdm Complexity | 0.051 | 0.048 | 0.052 | 0.051 |
| ngtdm Contrast | 0.223 | 0.242 | 0.084 | 0.165 |
| ngtdm Strength | 0.180 | 0.176 | 0.218 | 0.190 |

Table ST4: Values of ICC(3,1) for muscle and tumour, in 2mm and 5mm slices, independently. Those features with $ICC(3,1) < 0.9$ are considered correlated, except the ones shown in blue, for which only one value appears just below 0.9 in the four cases, and therefore are treated as fluctuations.

| Feature | ID | r_S tumour (2mm) | r_S muscle (2mm) | r_S tumour (5mm) | r_S muscle (5mm) |
|---|----|-----------------------|-----------------------|-----------------------|-----------------------|
| firstorder Energy | 0 | 0.888 | 0.925 | 0.871 | 0.925 |
| firstorder Entropy | 1 | -0.671 | -0.786 | -0.648 | -0.639 |
| firstorder TotalEnergy | 2 | 0.888 | 0.925 | 0.871 | 0.924 |
| firstorder Uniformity | 3 | 0.639 | 0.791 | 0.621 | 0.621 |
| glcm ClusterProminence | 4 | -0.662 | -0.640 | -0.677 | -0.615 |
| glcm ClusterTendency | 5 | -0.591 | -0.710 | -0.613 | -0.636 |
| glcm Contrast | 6 | -0.710 | -0.725 | -0.772 | -0.646 |
| glcm DifferenceAverage | 7 | -0.701 | -0.727 | -0.773 | -0.653 |
| glcm DifferenceEntropy | 8 | -0.648 | -0.658 | -0.615 | -0.561 |
| glcm DifferenceVariance | 9 | -0.715 | -0.715 | -0.711 | -0.637 |
| glcm Id | 10 | 0.693 | 0.714 | 0.744 | 0.649 |
| glcm Idm | 11 | 0.682 | 0.709 | 0.738 | 0.651 |
| glcm Idmn | 12 | 0.708 | 0.724 | 0.772 | 0.645 |
| glcm Idn | 13 | 0.693 | 0.726 | 0.770 | 0.654 |
| glcm Imc1 | 14 | 0.759 | 0.809 | 0.832 | 0.886 |
| glcm Imc2 | 15 | -0.812 | -0.861 | -0.853 | -0.913 |
| glcm InverseVariance | 16 | 0.669 | 0.709 | 0.726 | 0.652 |
| glcm SumSquares | 17 | -0.703 | -0.773 | -0.693 | -0.672 |
| gldm DependenceEntropy | 18 | 0.729 | 0.775 | 0.757 | 0.814 |
| gldm DependenceNonUniformity | 19 | 0.994 | 0.985 | 0.987 | 0.981 |
| gldm DependenceNonUniformityNormalized | 20 | -0.864 | -0.820 | -0.851 | -0.828 |
| gldm DependenceVariance | 21 | 0.851 | 0.783 | 0.835 | 0.791 |
| gldm GrayLevelNonUniformity | 22 | 0.995 | 0.996 | 0.993 | 0.989 |
| gldm GrayLevelVariance | 23 | -0.707 | -0.819 | -0.713 | -0.705 |
| gldm LargeDependenceEmphasis | 24 | 0.869 | 0.811 | 0.851 | 0.824 |
| gldm LargeDependenceHighGrayLevelEmphasis | 25 | 0.731 | 0.676 | 0.710 | 0.611 |
| gldm LowGrayLevelEmphasis | 26 | -0.713 | -0.704 | -0.751 | -0.666 |
| gldm SmallDependenceEmphasis | 27 | -0.865 | -0.818 | -0.856 | -0.803 |
| gldm SmallDependenceHighGrayLevelEmphasis | 28 | -0.783 | -0.598 | -0.767 | -0.743 |
| gldm SmallDependenceLowGrayLevelEmphasis | 29 | -0.833 | -0.799 | -0.831 | -0.788 |
| gldm GrayLevelNonUniformity | 30 | 0.996 | 0.996 | 0.993 | 0.989 |
| gldm GrayLevelNonUniformityNormalized | 31 | 0.636 | 0.788 | 0.615 | 0.624 |
| gldm GrayLevelVariance | 32 | -0.703 | -0.819 | -0.714 | -0.706 |
| gldm LongRunEmphasis | 33 | 0.871 | 0.814 | 0.821 | 0.790 |
| gldm LongRunLowGrayLevelEmphasis | 34 | -0.644 | -0.675 | -0.719 | -0.589 |
| gldm LowGrayLevelRunEmphasis | 35 | -0.713 | -0.707 | -0.753 | -0.661 |
| gldm RunLengthNonUniformity | 36 | 0.999 | 0.998 | 0.999 | 0.997 |
| gldm RunLengthNonUniformityNormalized | 37 | -0.863 | -0.813 | -0.813 | -0.792 |
| gldm RunPercentage | 38 | -0.872 | -0.811 | -0.828 | -0.793 |
| gldm RunVariance | 39 | 0.863 | 0.818 | 0.822 | 0.797 |
| gldm ShortRunEmphasis | 40 | -0.865 | -0.808 | -0.818 | -0.790 |
| gldm ShortRunLowGrayLevelEmphasis | 41 | -0.717 | -0.704 | -0.766 | -0.679 |
| glszm GrayLevelNonUniformity | 42 | 0.993 | 0.986 | 0.991 | 0.985 |
| glszm GrayLevelNonUniformityNormalized | 43 | 0.470 | 0.683 | 0.533 | 0.531 |
| glszm GrayLevelVariance | 44 | -0.647 | -0.733 | -0.711 | -0.643 |
| glszm LargeAreaEmphasis | 45 | 0.893 | 0.852 | 0.862 | 0.861 |
| glszm LargeAreaHighGrayLevelEmphasis | 46 | 0.880 | 0.814 | 0.832 | 0.794 |
| glszm LargeAreaLowGrayLevelEmphasis | 47 | 0.627 | 0.661 | 0.595 | 0.624 |
| glszm LowGrayLevelZoneEmphasis | 48 | -0.717 | -0.721 | -0.776 | -0.681 |
| glszm SizeZoneNonUniformity | 49 | 0.972 | 0.937 | 0.949 | 0.891 |
| glszm SizeZoneNonUniformityNormalized | 50 | -0.815 | -0.754 | -0.831 | -0.739 |
| glszm SmallAreaEmphasis | 51 | -0.798 | -0.752 | -0.824 | -0.737 |
| glszm SmallAreaLowGrayLevelEmphasis | 52 | -0.764 | -0.765 | -0.751 | -0.691 |
| glszm ZoneEntropy | 53 | 0.912 | 0.860 | 0.913 | 0.909 |
| glszm ZonePercentage | 54 | -0.881 | -0.830 | -0.859 | -0.836 |
| glszm ZoneVariance | 55 | 0.895 | 0.856 | 0.862 | 0.868 |
| ngtdm Busyness | 56 | 0.988 | 0.957 | 0.974 | 0.967 |
| ngtdm Coarseness | 57 | -0.995 | -0.995 | -0.993 | -0.991 |
| ngtdm Contrast | 58 | -0.858 | -0.851 | -0.851 | -0.783 |
| ngtdm Strength | 59 | -0.988 | -0.960 | -0.980 | -0.965 |

Table ST5: Median values of Spearman’s rank correlation coefficient (r_S), across different non-extreme voxel size resampling and interpolation method, for features found correlated ($r_S > 0.5$) with the number of voxels. High correlations are shown in red ($r_S > 0.75$) and medium in blue ($0.75 > r_S > 0.5$)

| Feature | O | (1,1,1) | | | (μ_x, μ_y, Z) | | | (μ_x, μ_y, μ_z) | | | (1.25,1.25,1.25) | | |
|--|------|---------|------|------|---------------------|------|------|-------------------------|------|------|------------------|------|------|
| | | L | S | W | L | S | W | L | S | W | L | S | W |
| shape Elongation | 0.18 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| shape Flatness | 0.19 | 0.20 | 0.20 | 0.20 | 0.19 | 0.19 | 0.19 | 0.21 | 0.21 | 0.21 | 0.19 | 0.19 | 0.19 |
| shape LeastAxisLength | 0.14 | 0.12 | 0.12 | 0.12 | 0.13 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| shape MajorAxisLength | 0.18 | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.18 | 0.17 | 0.17 | 0.17 |
| shape Maximum2DDiameterColumn | 0.15 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| shape Maximum2DDiameterRow | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| shape Maximum2DDiameterSlice | 0.10 | 0.09 | 0.09 | 0.09 | 0.08 | 0.08 | 0.08 | 0.11 | 0.11 | 0.11 | 0.08 | 0.08 | 0.08 |
| shape Maximum3DDiameter | 0.15 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| shape MeshVolume | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 |
| shape MinorAxisLength | 0.07 | 0.08 | 0.08 | 0.08 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.08 | 0.08 |
| shape Sphericity | 0.14 | 0.16 | 0.16 | 0.16 | 0.14 | 0.14 | 0.14 | 0.07 | 0.07 | 0.07 | 0.13 | 0.13 | 0.13 |
| shape SurfaceArea | 0.24 | 0.23 | 0.23 | 0.23 | 0.25 | 0.25 | 0.25 | 0.16 | 0.16 | 0.16 | 0.24 | 0.24 | 0.24 |
| shape SurfaceVolumeRatio | 0.14 | 0.14 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 | 0.06 | 0.06 | 0.06 | 0.12 | 0.12 | 0.12 |
| shape VoxelVolume | 0.20 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 |
| firstorder 10Percentile | 0.28 | 0.19 | 0.23 | 0.19 | 0.23 | 0.27 | 0.26 | 0.23 | 0.29 | 0.25 | 0.21 | 0.23 | 0.19 |
| firstorder 90Percentile | 0.07 | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.06 | 0.06 | 0.06 | 0.05 | 0.06 | 0.06 |
| firstorder Energy | 0.63 | 0.24 | 0.24 | 0.24 | 0.62 | 0.63 | 0.63 | 0.26 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 |
| firstorder Entropy | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 |
| firstorder InterquartileRange | 0.23 | 0.25 | 0.23 | 0.20 | 0.22 | 0.22 | 0.22 | 0.26 | 0.22 | 0.22 | 0.26 | 0.23 | 0.21 |
| firstorder Kurtosis | 0.07 | 0.10 | 0.07 | 0.08 | 0.07 | 0.07 | 0.07 | 0.09 | 0.06 | 0.06 | 0.10 | 0.07 | 0.08 |
| firstorder Maximum | 0.16 | 0.13 | 0.15 | 0.15 | 0.16 | 0.18 | 0.18 | 0.12 | 0.14 | 0.13 | 0.15 | 0.14 | 0.14 |
| firstorder MeanAbsoluteDeviation | 0.21 | 0.22 | 0.22 | 0.20 | 0.22 | 0.22 | 0.21 | 0.24 | 0.23 | 0.21 | 0.25 | 0.22 | 0.20 |
| firstorder Mean | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 |
| firstorder Median | 0.04 | 0.03 | 0.04 | 0.04 | 0.04 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| firstorder Minimum | 1.05 | 0.84 | 1.08 | 1.11 | 0.86 | 1.04 | 1.02 | 0.86 | 1.12 | 1.06 | 0.93 | 0.99 | 0.94 |
| firstorder Range | 0.28 | 0.22 | 0.26 | 0.22 | 0.29 | 0.29 | 0.30 | 0.26 | 0.24 | 0.23 | 0.27 | 0.25 | 0.24 |
| firstorder RobustMeanAbsoluteDeviation | 0.21 | 0.24 | 0.22 | 0.21 | 0.22 | 0.22 | 0.22 | 0.23 | 0.22 | 0.21 | 0.26 | 0.23 | 0.21 |
| firstorder RootMeanSquared | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| firstorder Skewness | 0.92 | 1.22 | 1.06 | 1.35 | 1.24 | 0.96 | 1.05 | 1.07 | 1.24 | 1.16 | 1.21 | 1.25 | 1.19 |
| firstorder TotalEnergy | 0.24 | 0.24 | 0.24 | 0.24 | 0.22 | 0.22 | 0.22 | 0.26 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 |
| firstorder Uniformity | 0.09 | 0.10 | 0.10 | 0.10 | 0.10 | 0.09 | 0.08 | 0.09 | 0.09 | 0.11 | 0.10 | 0.08 | 0.08 |
| firstorder Variance | 0.38 | 0.40 | 0.37 | 0.35 | 0.40 | 0.39 | 0.38 | 0.43 | 0.41 | 0.38 | 0.42 | 0.38 | 0.36 |
| glcm Autocorrelation | 0.10 | 0.16 | 0.18 | 0.17 | 0.12 | 0.12 | 0.11 | 0.19 | 0.18 | 0.17 | 0.24 | 0.22 | 0.20 |
| glcm ClusterProminence | 0.23 | 0.31 | 0.28 | 0.30 | 0.25 | 0.27 | 0.27 | 0.30 | 0.33 | 0.36 | 0.44 | 0.35 | 0.31 |
| glcm ClusterShade | 1.02 | 1.07 | 1.29 | 1.44 | 1.05 | 0.98 | 1.18 | 1.09 | 1.26 | 1.13 | 1.80 | 1.58 | 1.83 |
| glcm ClusterTendency | 0.12 | 0.18 | 0.16 | 0.15 | 0.19 | 0.15 | 0.15 | 0.18 | 0.24 | 0.21 | 0.19 | 0.17 | 0.16 |
| glcm Contrast | 0.41 | 0.24 | 0.19 | 0.21 | 0.47 | 0.47 | 0.44 | 0.21 | 0.18 | 0.19 | 0.21 | 0.17 | 0.19 |
| glcm Correlation | 0.40 | 0.13 | 0.11 | 0.12 | 0.37 | 0.39 | 0.39 | 0.41 | 0.57 | 0.48 | 0.22 | 0.25 | 0.26 |
| glcm DifferenceAverage | 0.20 | 0.12 | 0.10 | 0.11 | 0.21 | 0.21 | 0.20 | 0.11 | 0.10 | 0.09 | 0.10 | 0.09 | 0.09 |
| glcm DifferenceEntropy | 0.06 | 0.04 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06 | 0.04 | 0.03 | 0.03 | 0.04 | 0.03 | 0.04 |
| glcm DifferenceVariance | 0.37 | 0.20 | 0.19 | 0.22 | 0.40 | 0.43 | 0.44 | 0.22 | 0.18 | 0.18 | 0.19 | 0.17 | 0.20 |
| glcm Id | 0.11 | 0.08 | 0.06 | 0.06 | 0.12 | 0.11 | 0.11 | 0.08 | 0.06 | 0.06 | 0.08 | 0.05 | 0.06 |
| glcm Idm | 0.15 | 0.12 | 0.10 | 0.10 | 0.16 | 0.15 | 0.15 | 0.13 | 0.09 | 0.08 | 0.13 | 0.09 | 0.10 |
| glcm Idmn | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glcm Idn | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glcm Imc1 | 0.56 | 0.30 | 0.32 | 0.32 | 0.56 | 0.68 | 0.66 | 0.29 | 0.25 | 0.22 | 0.31 | 0.28 | 0.31 |
| glcm Imc2 | 0.15 | 0.05 | 0.07 | 0.07 | 0.13 | 0.16 | 0.16 | 0.06 | 0.07 | 0.06 | 0.07 | 0.07 | 0.06 |
| glcm InverseVariance | 0.14 | 0.12 | 0.08 | 0.09 | 0.16 | 0.15 | 0.15 | 0.11 | 0.10 | 0.09 | 0.11 | 0.09 | 0.09 |
| glcm JointAverage | 0.05 | 0.09 | 0.09 | 0.08 | 0.06 | 0.07 | 0.05 | 0.11 | 0.09 | 0.09 | 0.12 | 0.12 | 0.10 |
| glcm JointEnergy | 0.20 | 0.23 | 0.15 | 0.18 | 0.20 | 0.21 | 0.20 | 0.19 | 0.17 | 0.17 | 0.22 | 0.20 | 0.19 |
| glcm JointEntropy | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| glcm MCC | 0.18 | 0.11 | 0.15 | 0.15 | 0.20 | 0.21 | 0.20 | 0.25 | 0.21 | 0.18 | 0.16 | 0.16 | 0.15 |
| glcm MaximumProbability | 0.24 | 0.21 | 0.15 | 0.21 | 0.22 | 0.21 | 0.20 | 0.15 | 0.15 | 0.13 | 0.21 | 0.18 | 0.17 |
| glcm SumAverage | 0.05 | 0.09 | 0.09 | 0.08 | 0.06 | 0.07 | 0.05 | 0.11 | 0.09 | 0.09 | 0.12 | 0.12 | 0.10 |
| glcm SumEntropy | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| glcm SumSquares | 0.18 | 0.21 | 0.16 | 0.19 | 0.22 | 0.18 | 0.17 | 0.18 | 0.18 | 0.20 | 0.22 | 0.15 | 0.16 |

Table ST6: Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness (Δ_r), across different non-extreme voxel size resampling and interpolation method, before correcting for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red.

| Feature | O | (1,1,1) | | | (μ_x, μ_y, Z) | | | (μ_x, μ_y, μ_z) | | | (1.25,1.25,1.25) | | |
|---|------|---------|------|------|---------------------|------|------|-------------------------|------|------|------------------|------|------|
| | | L | S | W | L | S | W | L | S | W | L | S | W |
| gldm DependenceEntropy | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 |
| gldm DependenceNonUniformity | 0.54 | 0.27 | 0.24 | 0.23 | 0.54 | 0.55 | 0.52 | 0.20 | 0.19 | 0.20 | 0.24 | 0.24 | 0.25 |
| gldm DependenceNonUniformityNormalized | 0.24 | 0.14 | 0.11 | 0.10 | 0.24 | 0.25 | 0.26 | 0.11 | 0.10 | 0.10 | 0.12 | 0.10 | 0.10 |
| gldm DependenceVariance | 0.27 | 0.41 | 0.26 | 0.26 | 0.31 | 0.30 | 0.31 | 0.22 | 0.14 | 0.12 | 0.23 | 0.28 | 0.26 |
| gldm GrayLevelNonUniformity | 0.65 | 0.26 | 0.28 | 0.26 | 0.65 | 0.64 | 0.65 | 0.25 | 0.25 | 0.26 | 0.25 | 0.25 | 0.22 |
| gldm GrayLevelVariance | 0.19 | 0.20 | 0.16 | 0.16 | 0.19 | 0.19 | 0.19 | 0.17 | 0.17 | 0.19 | 0.20 | 0.14 | 0.17 |
| gldm HighGrayLevelEmphasis | 0.06 | 0.14 | 0.18 | 0.15 | 0.09 | 0.12 | 0.10 | 0.15 | 0.14 | 0.15 | 0.20 | 0.19 | 0.17 |
| gldm LargeDependenceEmphasis | 0.29 | 0.31 | 0.25 | 0.22 | 0.29 | 0.30 | 0.33 | 0.18 | 0.14 | 0.16 | 0.25 | 0.20 | 0.21 |
| gldm LargeDependenceHighGrayLevelEmphasis | 0.24 | 0.56 | 0.41 | 0.42 | 0.26 | 0.25 | 0.22 | 0.40 | 0.32 | 0.21 | 0.44 | 0.44 | 0.30 |
| gldm LargeDependenceLowGrayLevelEmphasis | 0.23 | 0.20 | 0.24 | 0.24 | 0.28 | 0.29 | 0.31 | 0.26 | 0.24 | 0.17 | 0.35 | 0.29 | 0.27 |
| gldm LowGrayLevelEmphasis | 0.31 | 0.24 | 0.28 | 0.20 | 0.29 | 0.26 | 0.26 | 0.31 | 0.27 | 0.24 | 0.32 | 0.24 | 0.21 |
| gldm SmallDependenceEmphasis | 0.20 | 0.16 | 0.14 | 0.13 | 0.25 | 0.25 | 0.27 | 0.11 | 0.10 | 0.08 | 0.15 | 0.12 | 0.11 |
| gldm SmallDependenceHighGrayLevelEmphasis | 0.33 | 0.13 | 0.09 | 0.11 | 0.34 | 0.33 | 0.32 | 0.18 | 0.15 | 0.14 | 0.16 | 0.16 | 0.14 |
| gldm SmallDependenceLowGrayLevelEmphasis | 0.45 | 0.33 | 0.42 | 0.36 | 0.40 | 0.33 | 0.41 | 0.34 | 0.31 | 0.29 | 0.40 | 0.33 | 0.25 |
| glrlm GrayLevelNonUniformity | 0.64 | 0.25 | 0.26 | 0.25 | 0.64 | 0.64 | 0.64 | 0.26 | 0.25 | 0.25 | 0.25 | 0.20 | 0.23 |
| glrlm GrayLevelNonUniformityNormalized | 0.08 | 0.10 | 0.09 | 0.10 | 0.10 | 0.09 | 0.08 | 0.09 | 0.09 | 0.11 | 0.10 | 0.07 | 0.08 |
| glrlm GrayLevelVariance | 0.19 | 0.20 | 0.15 | 0.16 | 0.19 | 0.18 | 0.19 | 0.17 | 0.16 | 0.19 | 0.19 | 0.14 | 0.17 |
| glrlm HighGrayLevelRunEmphasis | 0.06 | 0.13 | 0.18 | 0.15 | 0.09 | 0.12 | 0.10 | 0.15 | 0.14 | 0.14 | 0.20 | 0.19 | 0.18 |
| glrlm LongRunEmphasis | 0.04 | 0.08 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.02 | 0.02 | 0.02 | 0.05 | 0.03 | 0.03 |
| glrlm LongRunHighGrayLevelEmphasis | 0.08 | 0.20 | 0.23 | 0.21 | 0.10 | 0.11 | 0.09 | 0.19 | 0.16 | 0.16 | 0.27 | 0.22 | 0.19 |
| glrlm LongRunLowGrayLevelEmphasis | 0.24 | 0.22 | 0.23 | 0.22 | 0.27 | 0.22 | 0.20 | 0.29 | 0.25 | 0.23 | 0.32 | 0.20 | 0.22 |
| glrlm LowGrayLevelRunEmphasis | 0.31 | 0.23 | 0.28 | 0.20 | 0.29 | 0.27 | 0.26 | 0.30 | 0.28 | 0.23 | 0.33 | 0.24 | 0.22 |
| glrlm RunEntropy | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| glrlm RunLengthNonUniformity | 0.59 | 0.22 | 0.21 | 0.20 | 0.59 | 0.59 | 0.59 | 0.22 | 0.22 | 0.22 | 0.22 | 0.21 | 0.21 |
| glrlm RunLengthNonUniformityNormalized | 0.03 | 0.02 | 0.01 | 0.02 | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 |
| glrlm RunPercentage | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glrlm RunVariance | 0.29 | 0.65 | 0.42 | 0.41 | 0.27 | 0.29 | 0.30 | 0.18 | 0.16 | 0.16 | 0.45 | 0.34 | 0.32 |
| glrlm ShortRunEmphasis | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 |
| glrlm ShortRunHighGrayLevelEmphasis | 0.07 | 0.12 | 0.15 | 0.14 | 0.08 | 0.13 | 0.12 | 0.14 | 0.14 | 0.14 | 0.21 | 0.18 | 0.18 |
| glrlm ShortRunLowGrayLevelEmphasis | 0.33 | 0.24 | 0.29 | 0.21 | 0.29 | 0.29 | 0.28 | 0.31 | 0.28 | 0.24 | 0.33 | 0.25 | 0.20 |
| glszm GrayLevelNonUniformity | 0.55 | 0.29 | 0.26 | 0.25 | 0.53 | 0.55 | 0.55 | 0.25 | 0.22 | 0.22 | 0.27 | 0.26 | 0.26 |
| glszm GrayLevelNonUniformityNormalized | 0.05 | 0.07 | 0.07 | 0.07 | 0.05 | 0.06 | 0.06 | 0.07 | 0.06 | 0.07 | 0.06 | 0.06 | 0.07 |
| glszm GrayLevelVariance | 0.12 | 0.11 | 0.11 | 0.12 | 0.13 | 0.12 | 0.12 | 0.13 | 0.12 | 0.14 | 0.13 | 0.13 | 0.15 |
| glszm HighGrayLevelZoneEmphasis | 0.07 | 0.13 | 0.16 | 0.12 | 0.09 | 0.11 | 0.09 | 0.12 | 0.12 | 0.13 | 0.19 | 0.19 | 0.16 |
| glszm LargeAreaEmphasis | 0.56 | 1.46 | 0.59 | 0.48 | 0.54 | 0.51 | 0.55 | 0.52 | 0.26 | 0.30 | 0.42 | 0.40 | 0.40 |
| glszm LargeAreaHighGrayLevelEmphasis | 0.52 | 1.58 | 0.80 | 0.54 | 0.56 | 0.49 | 0.51 | 0.61 | 0.39 | 0.33 | 0.59 | 0.52 | 0.46 |
| glszm LargeAreaLowGrayLevelEmphasis | 0.38 | 0.67 | 0.42 | 0.37 | 0.50 | 0.44 | 0.49 | 0.38 | 0.32 | 0.27 | 0.51 | 0.35 | 0.40 |
| glszm LowGrayLevelZoneEmphasis | 0.27 | 0.17 | 0.27 | 0.21 | 0.23 | 0.23 | 0.23 | 0.29 | 0.31 | 0.21 | 0.29 | 0.31 | 0.26 |
| glszm SizeZoneNonUniformity | 0.45 | 0.27 | 0.28 | 0.26 | 0.47 | 0.47 | 0.43 | 0.25 | 0.24 | 0.24 | 0.30 | 0.25 | 0.28 |
| glszm SizeZoneNonUniformityNormalized | 0.14 | 0.07 | 0.11 | 0.09 | 0.17 | 0.17 | 0.19 | 0.10 | 0.11 | 0.08 | 0.11 | 0.09 | 0.10 |
| glszm SmallAreaEmphasis | 0.07 | 0.04 | 0.06 | 0.04 | 0.08 | 0.08 | 0.09 | 0.05 | 0.05 | 0.04 | 0.06 | 0.04 | 0.05 |
| glszm SmallAreaHighGrayLevelEmphasis | 0.10 | 0.13 | 0.11 | 0.13 | 0.14 | 0.16 | 0.15 | 0.12 | 0.11 | 0.12 | 0.13 | 0.16 | 0.12 |
| glszm SmallAreaLowGrayLevelEmphasis | 0.26 | 0.25 | 0.40 | 0.23 | 0.21 | 0.28 | 0.31 | 0.31 | 0.30 | 0.28 | 0.30 | 0.36 | 0.31 |
| glszm ZoneEntropy | 0.04 | 0.02 | 0.03 | 0.03 | 0.05 | 0.05 | 0.05 | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 |
| glszm ZonePercentage | 0.21 | 0.19 | 0.11 | 0.13 | 0.25 | 0.23 | 0.24 | 0.10 | 0.09 | 0.08 | 0.14 | 0.10 | 0.12 |
| glszm ZoneVariance | 0.69 | 2.04 | 0.74 | 0.60 | 0.74 | 0.66 | 0.69 | 0.59 | 0.31 | 0.41 | 0.58 | 0.59 | 0.54 |
| ngtdm Busyness | 0.52 | 0.30 | 0.24 | 0.20 | 0.49 | 0.54 | 0.53 | 0.30 | 0.23 | 0.21 | 0.24 | 0.20 | 0.19 |
| ngtdm Coarseness | 1.26 | 0.25 | 0.24 | 0.22 | 1.30 | 1.33 | 1.31 | 0.34 | 0.31 | 0.27 | 0.26 | 0.26 | 0.24 |
| ngtdm Complexity | 0.14 | 0.15 | 0.11 | 0.11 | 0.14 | 0.17 | 0.14 | 0.18 | 0.13 | 0.12 | 0.17 | 0.11 | 0.11 |
| ngtdm Contrast | 0.51 | 0.28 | 0.24 | 0.26 | 0.54 | 0.37 | 0.46 | 0.26 | 0.24 | 0.20 | 0.22 | 0.22 | 0.22 |
| ngtdm Strength | 1.09 | 0.29 | 0.23 | 0.26 | 1.08 | 1.22 | 1.13 | 0.38 | 0.28 | 0.27 | 0.32 | 0.21 | 0.22 |

Table ST7: Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness (Δ_r), across different non-extreme voxel size resampling and interpolation method, before correcting for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red.

| Feature | O | (1,1,1) | | | (μ_x, μ_y, Z) | | | (μ_x, μ_y, μ_z) | | | (1.25,1.25,1.25) | | |
|--|------|---------|------|------|---------------------|------|------|-------------------------|------|------|------------------|------|------|
| | | L | S | W | L | S | W | L | S | W | L | S | W |
| shape Elongation | 0.18 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| shape Flatness | 0.19 | 0.20 | 0.20 | 0.20 | 0.19 | 0.19 | 0.19 | 0.21 | 0.21 | 0.21 | 0.19 | 0.19 | 0.19 |
| shape LeastAxisLength | 0.14 | 0.12 | 0.12 | 0.12 | 0.13 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| shape MajorAxisLength | 0.18 | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.18 | 0.17 | 0.17 | 0.17 |
| shape Maximum2DDiameterColumn | 0.15 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| shape Maximum2DDiameterRow | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| shape Maximum2DDiameterSlice | 0.10 | 0.09 | 0.09 | 0.09 | 0.08 | 0.08 | 0.08 | 0.11 | 0.11 | 0.11 | 0.08 | 0.08 | 0.08 |
| shape Maximum3DDiameter | 0.15 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| shape MeshVolume | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 |
| shape MinorAxisLength | 0.07 | 0.08 | 0.08 | 0.08 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.08 | 0.08 |
| shape Sphericity | 0.14 | 0.16 | 0.16 | 0.16 | 0.14 | 0.14 | 0.14 | 0.07 | 0.07 | 0.07 | 0.13 | 0.13 | 0.13 |
| shape SurfaceArea | 0.24 | 0.23 | 0.23 | 0.23 | 0.25 | 0.25 | 0.25 | 0.16 | 0.16 | 0.16 | 0.24 | 0.24 | 0.24 |
| shape SurfaceVolumeRatio | 0.14 | 0.14 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 | 0.06 | 0.06 | 0.06 | 0.12 | 0.12 | 0.12 |
| shape VoxelVolume | 0.20 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 |
| firstorder 10Percentile | 0.28 | 0.19 | 0.23 | 0.19 | 0.23 | 0.27 | 0.26 | 0.23 | 0.29 | 0.25 | 0.21 | 0.23 | 0.19 |
| firstorder 90Percentile | 0.07 | 0.06 | 0.06 | 0.06 | 0.06 | 0.07 | 0.07 | 0.06 | 0.06 | 0.06 | 0.05 | 0.06 | 0.06 |
| firstorder Energy | 0.08 | 0.08 | 0.08 | 0.08 | 0.09 | 0.11 | 0.11 | 0.09 | 0.09 | 0.09 | 0.08 | 0.08 | 0.09 |
| firstorder Entropy | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 | 0.02 |
| firstorder InterquartileRange | 0.23 | 0.25 | 0.23 | 0.20 | 0.22 | 0.22 | 0.22 | 0.26 | 0.22 | 0.22 | 0.26 | 0.23 | 0.21 |
| firstorder Kurtosis | 0.07 | 0.10 | 0.07 | 0.08 | 0.07 | 0.07 | 0.07 | 0.09 | 0.06 | 0.06 | 0.10 | 0.07 | 0.08 |
| firstorder Maximum | 0.16 | 0.13 | 0.15 | 0.15 | 0.16 | 0.18 | 0.18 | 0.12 | 0.14 | 0.13 | 0.15 | 0.14 | 0.14 |
| firstorder MeanAbsoluteDeviation | 0.21 | 0.22 | 0.22 | 0.20 | 0.22 | 0.22 | 0.21 | 0.24 | 0.23 | 0.21 | 0.25 | 0.22 | 0.20 |
| firstorder Mean | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 |
| firstorder Median | 0.04 | 0.03 | 0.04 | 0.04 | 0.04 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| firstorder Minimum | 1.05 | 0.84 | 1.08 | 1.11 | 0.86 | 1.04 | 1.02 | 0.86 | 1.12 | 1.06 | 0.93 | 0.99 | 0.94 |
| firstorder Range | 0.28 | 0.22 | 0.26 | 0.22 | 0.29 | 0.29 | 0.30 | 0.26 | 0.24 | 0.23 | 0.27 | 0.25 | 0.24 |
| firstorder RobustMeanAbsoluteDeviation | 0.21 | 0.24 | 0.22 | 0.21 | 0.22 | 0.22 | 0.22 | 0.23 | 0.22 | 0.21 | 0.26 | 0.23 | 0.21 |
| firstorder RootMeanSquared | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| firstorder Skewness | 0.92 | 1.22 | 1.06 | 1.35 | 1.24 | 0.96 | 1.05 | 1.07 | 1.24 | 1.16 | 1.21 | 1.25 | 1.19 |
| firstorder TotalEnergy | 0.24 | 0.24 | 0.24 | 0.24 | 0.22 | 0.22 | 0.22 | 0.26 | 0.24 | 0.24 | 0.23 | 0.23 | 0.23 |
| firstorder Uniformity | 0.09 | 0.10 | 0.10 | 0.10 | 0.10 | 0.09 | 0.08 | 0.09 | 0.09 | 0.11 | 0.10 | 0.08 | 0.08 |
| firstorder Variance | 0.38 | 0.40 | 0.37 | 0.35 | 0.40 | 0.39 | 0.38 | 0.43 | 0.41 | 0.38 | 0.42 | 0.38 | 0.36 |
| glcm Autocorrelation | 0.10 | 0.16 | 0.18 | 0.17 | 0.12 | 0.12 | 0.11 | 0.19 | 0.18 | 0.17 | 0.24 | 0.22 | 0.20 |
| glcm ClusterProminence | 0.23 | 0.31 | 0.28 | 0.30 | 0.25 | 0.27 | 0.27 | 0.30 | 0.33 | 0.36 | 0.44 | 0.35 | 0.31 |
| glcm ClusterShade | 1.02 | 1.07 | 1.29 | 1.44 | 1.05 | 0.98 | 1.18 | 1.09 | 1.26 | 1.13 | 1.80 | 1.58 | 1.83 |
| glcm ClusterTendency | 0.12 | 0.18 | 0.16 | 0.15 | 0.19 | 0.15 | 0.15 | 0.18 | 0.24 | 0.21 | 0.19 | 0.17 | 0.16 |
| glcm Contrast | 0.41 | 0.24 | 0.19 | 0.21 | 0.47 | 0.47 | 0.44 | 0.21 | 0.18 | 0.19 | 0.21 | 0.17 | 0.19 |
| glcm Correlation | 0.40 | 0.13 | 0.11 | 0.12 | 0.37 | 0.39 | 0.39 | 0.41 | 0.57 | 0.48 | 0.22 | 0.25 | 0.26 |
| glcm DifferenceAverage | 0.20 | 0.12 | 0.10 | 0.11 | 0.21 | 0.21 | 0.20 | 0.11 | 0.10 | 0.09 | 0.10 | 0.09 | 0.09 |
| glcm DifferenceEntropy | 0.06 | 0.04 | 0.03 | 0.04 | 0.05 | 0.06 | 0.06 | 0.04 | 0.03 | 0.03 | 0.04 | 0.03 | 0.04 |
| glcm DifferenceVariance | 0.37 | 0.20 | 0.19 | 0.22 | 0.40 | 0.43 | 0.44 | 0.22 | 0.18 | 0.18 | 0.19 | 0.17 | 0.20 |
| glcm Id | 0.11 | 0.08 | 0.06 | 0.06 | 0.12 | 0.11 | 0.11 | 0.08 | 0.06 | 0.06 | 0.08 | 0.05 | 0.06 |
| glcm Idm | 0.15 | 0.12 | 0.10 | 0.10 | 0.16 | 0.15 | 0.15 | 0.13 | 0.09 | 0.08 | 0.13 | 0.09 | 0.10 |
| glcm Idmn | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glcm Idn | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glcm Imc1 | 0.32 | 0.53 | 0.35 | 0.35 | 0.38 | 0.32 | 0.32 | 0.30 | 0.19 | 0.19 | 0.21 | 0.13 | 0.13 |
| glcm Imc2 | 0.15 | 0.05 | 0.07 | 0.07 | 0.13 | 0.16 | 0.16 | 0.06 | 0.07 | 0.06 | 0.07 | 0.07 | 0.06 |
| glcm InverseVariance | 0.14 | 0.12 | 0.08 | 0.09 | 0.16 | 0.15 | 0.15 | 0.11 | 0.10 | 0.09 | 0.11 | 0.09 | 0.09 |
| glcm JointAverage | 0.05 | 0.09 | 0.09 | 0.08 | 0.06 | 0.07 | 0.05 | 0.11 | 0.09 | 0.09 | 0.12 | 0.12 | 0.10 |
| glcm JointEnergy | 0.20 | 0.23 | 0.15 | 0.18 | 0.20 | 0.21 | 0.20 | 0.19 | 0.17 | 0.17 | 0.22 | 0.20 | 0.19 |
| glcm JointEntropy | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| glcm MCC | 0.18 | 0.11 | 0.15 | 0.15 | 0.20 | 0.21 | 0.20 | 0.25 | 0.21 | 0.18 | 0.16 | 0.16 | 0.15 |
| glcm MaximumProbability | 0.24 | 0.21 | 0.15 | 0.21 | 0.22 | 0.21 | 0.20 | 0.15 | 0.15 | 0.13 | 0.21 | 0.18 | 0.17 |
| glcm SumAverage | 0.05 | 0.09 | 0.09 | 0.08 | 0.06 | 0.07 | 0.05 | 0.11 | 0.09 | 0.09 | 0.12 | 0.12 | 0.10 |
| glcm SumEntropy | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| glcm SumSquares | 0.18 | 0.21 | 0.16 | 0.19 | 0.22 | 0.18 | 0.17 | 0.18 | 0.18 | 0.20 | 0.22 | 0.15 | 0.16 |

Table ST8: Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness (Δ_r), across different non-extreme voxel size resampling and interpolation method, after correcting certain features for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red.

| Feature | O | (1,1,1) | | | (μ_x, μ_y, Z) | | | (μ_x, μ_y, μ_z) | | | (1.25,1.25,1.25) | | |
|---|------|---------|------|------|---------------------|------|------|-------------------------|------|------|------------------|------|------|
| | | L | S | W | L | S | W | L | S | W | L | S | W |
| gldm DependenceEntropy | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.02 |
| gldm DependenceNonUniformity | 0.14 | 0.16 | 0.13 | 0.15 | 0.17 | 0.17 | 0.16 | 0.14 | 0.11 | 0.13 | 0.19 | 0.15 | 0.13 |
| gldm DependenceNonUniformityNormalized | 0.24 | 0.14 | 0.11 | 0.10 | 0.24 | 0.25 | 0.26 | 0.11 | 0.10 | 0.10 | 0.12 | 0.10 | 0.10 |
| gldm DependenceVariance | 0.27 | 0.41 | 0.26 | 0.26 | 0.31 | 0.30 | 0.31 | 0.22 | 0.14 | 0.12 | 0.23 | 0.28 | 0.26 |
| gldm GrayLevelNonUniformity | 0.09 | 0.10 | 0.08 | 0.11 | 0.11 | 0.10 | 0.11 | 0.08 | 0.09 | 0.10 | 0.12 | 0.09 | 0.10 |
| gldm GrayLevelVariance | 0.19 | 0.20 | 0.16 | 0.16 | 0.19 | 0.19 | 0.19 | 0.17 | 0.17 | 0.19 | 0.20 | 0.14 | 0.17 |
| gldm HighGrayLevelEmphasis | 0.06 | 0.14 | 0.18 | 0.15 | 0.09 | 0.12 | 0.10 | 0.15 | 0.14 | 0.15 | 0.20 | 0.19 | 0.17 |
| gldm LargeDependenceEmphasis | 0.29 | 0.31 | 0.25 | 0.22 | 0.29 | 0.30 | 0.33 | 0.18 | 0.14 | 0.16 | 0.25 | 0.20 | 0.21 |
| gldm LargeDependenceHighGrayLevelEmphasis | 0.24 | 0.56 | 0.41 | 0.42 | 0.26 | 0.25 | 0.22 | 0.40 | 0.32 | 0.21 | 0.44 | 0.44 | 0.30 |
| gldm LargeDependenceLowGrayLevelEmphasis | 0.23 | 0.20 | 0.24 | 0.24 | 0.28 | 0.29 | 0.31 | 0.26 | 0.24 | 0.17 | 0.35 | 0.29 | 0.27 |
| gldm LowGrayLevelEmphasis | 0.31 | 0.24 | 0.28 | 0.20 | 0.29 | 0.26 | 0.26 | 0.31 | 0.27 | 0.24 | 0.32 | 0.24 | 0.21 |
| gldm SmallDependenceEmphasis | 0.20 | 0.16 | 0.14 | 0.13 | 0.25 | 0.25 | 0.27 | 0.11 | 0.10 | 0.08 | 0.15 | 0.12 | 0.11 |
| gldm SmallDependenceHighGrayLevelEmphasis | 0.33 | 0.13 | 0.09 | 0.11 | 0.34 | 0.33 | 0.32 | 0.18 | 0.15 | 0.14 | 0.16 | 0.16 | 0.14 |
| gldm SmallDependenceLowGrayLevelEmphasis | 0.45 | 0.33 | 0.42 | 0.36 | 0.40 | 0.33 | 0.41 | 0.34 | 0.31 | 0.29 | 0.40 | 0.33 | 0.25 |
| glrlm GrayLevelNonUniformity | 0.08 | 0.08 | 0.08 | 0.08 | 0.09 | 0.09 | 0.11 | 0.08 | 0.08 | 0.10 | 0.10 | 0.07 | 0.09 |
| glrlm GrayLevelNonUniformityNormalized | 0.08 | 0.10 | 0.09 | 0.10 | 0.10 | 0.09 | 0.08 | 0.09 | 0.09 | 0.11 | 0.10 | 0.07 | 0.08 |
| glrlm GrayLevelVariance | 0.19 | 0.20 | 0.15 | 0.16 | 0.19 | 0.18 | 0.19 | 0.17 | 0.16 | 0.19 | 0.19 | 0.14 | 0.17 |
| glrlm HighGrayLevelRunEmphasis | 0.06 | 0.13 | 0.18 | 0.15 | 0.09 | 0.12 | 0.10 | 0.15 | 0.14 | 0.14 | 0.20 | 0.19 | 0.18 |
| glrlm LongRunEmphasis | 0.04 | 0.08 | 0.05 | 0.05 | 0.04 | 0.04 | 0.04 | 0.02 | 0.02 | 0.02 | 0.05 | 0.03 | 0.03 |
| glrlm LongRunHighGrayLevelEmphasis | 0.08 | 0.20 | 0.23 | 0.21 | 0.10 | 0.11 | 0.09 | 0.19 | 0.16 | 0.16 | 0.27 | 0.22 | 0.19 |
| glrlm LongRunLowGrayLevelEmphasis | 0.24 | 0.22 | 0.23 | 0.22 | 0.27 | 0.22 | 0.20 | 0.29 | 0.25 | 0.23 | 0.32 | 0.20 | 0.22 |
| glrlm LowGrayLevelRunEmphasis | 0.31 | 0.23 | 0.28 | 0.20 | 0.29 | 0.27 | 0.26 | 0.30 | 0.28 | 0.23 | 0.33 | 0.24 | 0.22 |
| glrlm RunEntropy | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| glrlm RunLengthNonUniformity | 0.02 | 0.03 | 0.03 | 0.03 | 0.05 | 0.05 | 0.05 | 0.02 | 0.02 | 0.02 | 0.04 | 0.03 | 0.03 |
| glrlm RunLengthNonUniformityNormalized | 0.03 | 0.02 | 0.01 | 0.02 | 0.03 | 0.03 | 0.03 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 |
| glrlm RunPercentage | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glrlm RunVariance | 0.29 | 0.65 | 0.42 | 0.41 | 0.27 | 0.29 | 0.30 | 0.18 | 0.16 | 0.16 | 0.45 | 0.34 | 0.32 |
| glrlm ShortRunEmphasis | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 |
| glrlm ShortRunHighGrayLevelEmphasis | 0.07 | 0.12 | 0.15 | 0.14 | 0.08 | 0.13 | 0.12 | 0.14 | 0.14 | 0.14 | 0.21 | 0.18 | 0.18 |
| glrlm ShortRunLowGrayLevelEmphasis | 0.33 | 0.24 | 0.29 | 0.21 | 0.29 | 0.29 | 0.28 | 0.31 | 0.28 | 0.24 | 0.33 | 0.25 | 0.20 |
| glszm GrayLevelNonUniformity | 0.11 | 0.21 | 0.17 | 0.15 | 0.17 | 0.18 | 0.17 | 0.16 | 0.12 | 0.11 | 0.19 | 0.13 | 0.13 |
| glszm GrayLevelNonUniformityNormalized | 0.05 | 0.07 | 0.07 | 0.07 | 0.05 | 0.06 | 0.06 | 0.07 | 0.06 | 0.07 | 0.06 | 0.06 | 0.07 |
| glszm GrayLevelVariance | 0.12 | 0.11 | 0.11 | 0.12 | 0.13 | 0.12 | 0.12 | 0.13 | 0.12 | 0.14 | 0.13 | 0.13 | 0.15 |
| glszm HighGrayLevelZoneEmphasis | 0.07 | 0.13 | 0.16 | 0.12 | 0.09 | 0.11 | 0.09 | 0.12 | 0.12 | 0.13 | 0.19 | 0.19 | 0.16 |
| glszm LargeAreaEmphasis | 0.49 | 2.66 | 1.06 | 0.91 | 0.59 | 0.52 | 0.43 | 0.69 | 0.51 | 0.45 | 1.51 | 1.26 | 1.07 |
| glszm LargeAreaHighGrayLevelEmphasis | 0.51 | 3.24 | 2.07 | 1.85 | 0.57 | 0.57 | 0.59 | 1.28 | 0.60 | 0.71 | 2.28 | 1.75 | 1.94 |
| glszm LargeAreaLowGrayLevelEmphasis | 0.38 | 0.67 | 0.42 | 0.37 | 0.50 | 0.44 | 0.49 | 0.38 | 0.32 | 0.27 | 0.51 | 0.35 | 0.40 |
| glszm LowGrayLevelZoneEmphasis | 0.27 | 0.17 | 0.27 | 0.21 | 0.23 | 0.23 | 0.23 | 0.29 | 0.31 | 0.21 | 0.29 | 0.31 | 0.26 |
| glszm SizeZoneNonUniformity | 0.45 | 0.27 | 0.28 | 0.26 | 0.47 | 0.47 | 0.43 | 0.25 | 0.24 | 0.24 | 0.30 | 0.25 | 0.28 |
| glszm SizeZoneNonUniformityNormalized | 0.14 | 0.07 | 0.11 | 0.09 | 0.17 | 0.17 | 0.19 | 0.10 | 0.11 | 0.08 | 0.11 | 0.09 | 0.10 |
| glszm SmallAreaEmphasis | 0.07 | 0.04 | 0.06 | 0.04 | 0.08 | 0.08 | 0.09 | 0.05 | 0.05 | 0.04 | 0.06 | 0.04 | 0.05 |
| glszm SmallAreaHighGrayLevelEmphasis | 0.10 | 0.13 | 0.11 | 0.13 | 0.14 | 0.16 | 0.15 | 0.12 | 0.11 | 0.12 | 0.13 | 0.16 | 0.12 |
| glszm SmallAreaLowGrayLevelEmphasis | 0.26 | 0.25 | 0.40 | 0.23 | 0.21 | 0.28 | 0.31 | 0.31 | 0.30 | 0.28 | 0.30 | 0.36 | 0.31 |
| glszm ZoneEntropy | 0.04 | 0.02 | 0.03 | 0.03 | 0.05 | 0.05 | 0.05 | 0.02 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 |
| glszm ZonePercentage | 0.21 | 0.19 | 0.11 | 0.13 | 0.25 | 0.23 | 0.24 | 0.10 | 0.09 | 0.08 | 0.14 | 0.10 | 0.12 |
| glszm ZoneVariance | 0.48 | 3.08 | 0.98 | 0.81 | 0.55 | 0.53 | 0.47 | 0.55 | 0.43 | 0.41 | 1.44 | 1.27 | 1.18 |
| ngtdm Busyness | 0.19 | 0.21 | 0.14 | 0.15 | 0.23 | 0.15 | 0.19 | 0.25 | 0.19 | 0.15 | 0.16 | 0.14 | 0.12 |
| ngtdm Coarseness | 0.07 | 0.06 | 0.05 | 0.04 | 0.12 | 0.12 | 0.13 | 0.14 | 0.10 | 0.08 | 0.04 | 0.04 | 0.04 |
| ngtdm Complexity | 0.14 | 0.15 | 0.11 | 0.11 | 0.14 | 0.17 | 0.14 | 0.18 | 0.13 | 0.12 | 0.17 | 0.11 | 0.11 |
| ngtdm Contrast | 0.92 | 0.25 | 0.47 | 0.39 | 0.34 | 0.22 | 0.19 | 0.12 | 0.09 | 0.12 | 0.89 | 0.46 | 0.21 |
| ngtdm Strength | 0.16 | 0.15 | 0.10 | 0.08 | 0.25 | 0.24 | 0.24 | 0.15 | 0.09 | 0.11 | 0.13 | 0.13 | 0.16 |

Table ST9: Median values of the relative difference between the values of the features computed in images with 2mm and 5mm slice thickness (Δ_r, o), across different non-extreme voxel size resampling and interpolation method, after correcting certain features for the dependence with the number of voxels. Values $\Delta_r \geq 0.5$ are shown in red.

| Feature | O | (1,1,1) | | | (μ_x, μ_y, Z) | | | (μ_x, μ_y, μ_z) | | | (1.25,1.25,1.25) | | |
|--|------|---------|------|------|---------------------|------|------|-------------------------|------|------|------------------|------|------|
| | | L | S | W | L | S | W | L | S | W | L | S | W |
| shape Elongation | 0.18 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 |
| shape Flatness | 0.19 | 0.20 | 0.20 | 0.20 | 0.19 | 0.19 | 0.19 | 0.21 | 0.21 | 0.21 | 0.19 | 0.19 | 0.19 |
| shape LeastAxisLength | 0.14 | 0.12 | 0.12 | 0.12 | 0.13 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 |
| shape MajorAxisLength | 0.18 | 0.18 | 0.18 | 0.18 | 0.19 | 0.19 | 0.19 | 0.18 | 0.18 | 0.18 | 0.17 | 0.17 | 0.17 |
| shape Maximum2DDiameterColumn | 0.15 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| shape Maximum2DDiameterRow | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 |
| shape Maximum2DDiameterSlice | 0.10 | 0.09 | 0.09 | 0.09 | 0.08 | 0.08 | 0.08 | 0.11 | 0.11 | 0.11 | 0.08 | 0.08 | 0.08 |
| shape Maximum3DDiameter | 0.15 | 0.14 | 0.14 | 0.14 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 |
| shape MeshVolume | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 |
| shape MinorAxisLength | 0.07 | 0.08 | 0.08 | 0.08 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.08 | 0.08 |
| shape Sphericity | 0.14 | 0.16 | 0.16 | 0.16 | 0.14 | 0.14 | 0.14 | 0.07 | 0.07 | 0.07 | 0.13 | 0.13 | 0.13 |
| shape SurfaceArea | 0.24 | 0.23 | 0.23 | 0.23 | 0.25 | 0.25 | 0.25 | 0.16 | 0.16 | 0.16 | 0.24 | 0.24 | 0.24 |
| shape SurfaceVolumeRatio | 0.14 | 0.14 | 0.14 | 0.14 | 0.13 | 0.13 | 0.13 | 0.06 | 0.06 | 0.06 | 0.12 | 0.12 | 0.12 |
| shape VoxelVolume | 0.20 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 | 0.21 | 0.21 | 0.21 | 0.20 | 0.20 | 0.20 |
| firstorder 10Percentile | 0.17 | 0.15 | 0.16 | 0.19 | 0.16 | 0.17 | 0.18 | 0.16 | 0.17 | 0.17 | 0.16 | 0.22 | 0.23 |
| firstorder 90Percentile | 0.04 | 0.04 | 0.04 | 0.05 | 0.04 | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 | 0.04 | 0.05 | 0.05 |
| firstorder Energy | 0.19 | 0.17 | 0.17 | 0.18 | 0.21 | 0.20 | 0.20 | 0.22 | 0.21 | 0.20 | 0.20 | 0.15 | 0.15 |
| firstorder Entropy | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 |
| firstorder InterquartileRange | 0.06 | 0.06 | 0.06 | 0.05 | 0.06 | 0.06 | 0.06 | 0.08 | 0.07 | 0.10 | 0.08 | 0.09 | 0.09 |
| firstorder Kurtosis | 0.10 | 0.13 | 0.10 | 0.10 | 0.10 | 0.09 | 0.09 | 0.15 | 0.12 | 0.12 | 0.18 | 0.14 | 0.11 |
| firstorder Maximum | 0.06 | 0.07 | 0.08 | 0.10 | 0.06 | 0.06 | 0.07 | 0.07 | 0.10 | 0.10 | 0.06 | 0.09 | 0.11 |
| firstorder MeanAbsoluteDeviation | 0.04 | 0.07 | 0.07 | 0.07 | 0.06 | 0.04 | 0.04 | 0.08 | 0.07 | 0.07 | 0.07 | 0.06 | 0.07 |
| firstorder Mean | 0.05 | 0.04 | 0.04 | 0.04 | 0.05 | 0.05 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| firstorder Median | 0.04 | 0.04 | 0.03 | 0.04 | 0.04 | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 | 0.04 | 0.04 | 0.04 |
| firstorder Minimum | 1.08 | 1.15 | 1.37 | 1.27 | 1.47 | 1.20 | 1.17 | 1.13 | 1.22 | 1.12 | 1.05 | 0.99 | 1.13 |
| firstorder Range | 0.11 | 0.18 | 0.17 | 0.20 | 0.13 | 0.11 | 0.10 | 0.14 | 0.11 | 0.11 | 0.17 | 0.16 | 0.14 |
| firstorder RobustMeanAbsoluteDeviation | 0.05 | 0.06 | 0.05 | 0.06 | 0.06 | 0.05 | 0.05 | 0.09 | 0.07 | 0.07 | 0.07 | 0.07 | 0.09 |
| firstorder RootMeanSquared | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 | 0.05 | 0.06 |
| firstorder Skewness | 0.98 | 1.48 | 1.01 | 0.99 | 1.01 | 1.00 | 1.02 | 1.66 | 1.40 | 1.33 | 1.20 | 1.10 | 1.10 |
| firstorder TotalEnergy | 0.19 | 0.17 | 0.17 | 0.18 | 0.21 | 0.20 | 0.20 | 0.22 | 0.21 | 0.20 | 0.20 | 0.15 | 0.15 |
| firstorder Uniformity | 0.12 | 0.12 | 0.14 | 0.13 | 0.11 | 0.12 | 0.13 | 0.13 | 0.14 | 0.11 | 0.13 | 0.12 | 0.10 |
| firstorder Variance | 0.11 | 0.17 | 0.14 | 0.15 | 0.13 | 0.11 | 0.11 | 0.20 | 0.15 | 0.16 | 0.18 | 0.14 | 0.15 |
| glcm Autocorrelation | 0.22 | 0.22 | 0.17 | 0.19 | 0.19 | 0.18 | 0.19 | 0.24 | 0.22 | 0.21 | 0.30 | 0.23 | 0.21 |
| glcm ClusterProminence | 0.33 | 0.39 | 0.41 | 0.47 | 0.23 | 0.35 | 0.37 | 0.38 | 0.42 | 0.43 | 0.34 | 0.40 | 0.39 |
| glcm ClusterShade | 1.02 | 1.36 | 1.08 | 1.40 | 1.01 | 1.00 | 1.02 | 1.29 | 1.19 | 1.32 | 1.45 | 1.30 | 1.33 |
| glcm ClusterTendency | 0.20 | 0.17 | 0.23 | 0.26 | 0.13 | 0.19 | 0.20 | 0.28 | 0.29 | 0.26 | 0.23 | 0.22 | 0.19 |
| glcm Contrast | 0.26 | 0.31 | 0.26 | 0.31 | 0.30 | 0.26 | 0.30 | 0.25 | 0.25 | 0.20 | 0.31 | 0.23 | 0.23 |
| glcm Correlation | 0.19 | 0.15 | 0.17 | 0.19 | 0.20 | 0.17 | 0.17 | 0.15 | 0.20 | 0.20 | 0.22 | 0.22 | 0.27 |
| glcm DifferenceAverage | 0.15 | 0.16 | 0.14 | 0.16 | 0.13 | 0.13 | 0.13 | 0.13 | 0.12 | 0.12 | 0.16 | 0.12 | 0.11 |
| glcm DifferenceEntropy | 0.05 | 0.06 | 0.05 | 0.06 | 0.04 | 0.04 | 0.05 | 0.04 | 0.04 | 0.04 | 0.06 | 0.04 | 0.04 |
| glcm DifferenceVariance | 0.26 | 0.29 | 0.24 | 0.28 | 0.26 | 0.29 | 0.30 | 0.24 | 0.17 | 0.22 | 0.31 | 0.23 | 0.24 |
| glcm Id | 0.08 | 0.10 | 0.08 | 0.10 | 0.08 | 0.08 | 0.07 | 0.08 | 0.08 | 0.06 | 0.10 | 0.07 | 0.07 |
| glcm Idm | 0.11 | 0.15 | 0.11 | 0.14 | 0.12 | 0.11 | 0.11 | 0.12 | 0.11 | 0.09 | 0.14 | 0.10 | 0.10 |
| glcm Idmn | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glcm Idn | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 |
| glcm Imc1 | 0.16 | 0.12 | 0.12 | 0.13 | 0.16 | 0.16 | 0.17 | 0.20 | 0.19 | 0.19 | 0.13 | 0.17 | 0.18 |
| glcm Imc2 | 0.05 | 0.05 | 0.04 | 0.04 | 0.06 | 0.05 | 0.06 | 0.06 | 0.07 | 0.06 | 0.05 | 0.07 | 0.07 |
| glcm InverseVariance | 0.13 | 0.14 | 0.12 | 0.14 | 0.10 | 0.10 | 0.11 | 0.13 | 0.09 | 0.10 | 0.13 | 0.11 | 0.08 |
| glcm JointAverage | 0.11 | 0.12 | 0.09 | 0.10 | 0.10 | 0.08 | 0.10 | 0.12 | 0.10 | 0.11 | 0.14 | 0.12 | 0.10 |
| glcm JointEnergy | 0.23 | 0.30 | 0.27 | 0.22 | 0.26 | 0.26 | 0.25 | 0.23 | 0.23 | 0.20 | 0.26 | 0.19 | 0.22 |
| glcm JointEntropy | 0.05 | 0.04 | 0.04 | 0.04 | 0.04 | 0.05 | 0.05 | 0.03 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 |
| glcm MCC | 0.13 | 0.12 | 0.11 | 0.11 | 0.15 | 0.15 | 0.15 | 0.13 | 0.14 | 0.11 | 0.13 | 0.16 | 0.15 |
| glcm MaximumProbability | 0.26 | 0.26 | 0.20 | 0.23 | 0.22 | 0.24 | 0.23 | 0.21 | 0.18 | 0.19 | 0.25 | 0.19 | 0.24 |
| glcm SumAverage | 0.11 | 0.12 | 0.09 | 0.10 | 0.10 | 0.08 | 0.10 | 0.12 | 0.10 | 0.11 | 0.14 | 0.12 | 0.10 |
| glcm SumEntropy | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.04 | 0.04 | 0.03 | 0.03 | 0.03 |
| glcm SumSquares | 0.22 | 0.21 | 0.26 | 0.28 | 0.19 | 0.23 | 0.26 | 0.22 | 0.25 | 0.24 | 0.22 | 0.22 | 0.23 |

Table ST10: Median values of the relative difference between the values of the feature ratios (tumour over muscle) computed in images with 2mm and 5mm slice thickness ($\Delta_{\rho,r}$), across different non-extreme voxel size resampling and interpolation method. Values $\Delta_{\rho,r} \geq 0.5$ are shown in red.

| Feature | O | (1,1,1) | | | (μ_x, μ_y, Z) | | | (μ_x, μ_y, μ_z) | | | (1.25,1.25,1.25) | | |
|---|------|---------|------|------|---------------------|------|------|-------------------------|------|------|------------------|------|------|
| | | L | S | W | L | S | W | L | S | W | L | S | W |
| gldm DependenceEntropy | 0.02 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.01 | 0.02 |
| gldm DependenceNonUniformity | 0.17 | 0.15 | 0.11 | 0.12 | 0.19 | 0.16 | 0.17 | 0.15 | 0.15 | 0.16 | 0.16 | 0.16 | 0.14 |
| gldm DependenceNonUniformityNormalized | 0.09 | 0.12 | 0.10 | 0.11 | 0.12 | 0.11 | 0.10 | 0.10 | 0.11 | 0.09 | 0.13 | 0.09 | 0.10 |
| gldm DependenceVariance | 0.20 | 0.16 | 0.20 | 0.20 | 0.21 | 0.21 | 0.17 | 0.23 | 0.15 | 0.14 | 0.27 | 0.19 | 0.16 |
| gldm GrayLevelNonUniformity | 0.19 | 0.20 | 0.23 | 0.21 | 0.16 | 0.19 | 0.20 | 0.29 | 0.26 | 0.26 | 0.18 | 0.22 | 0.21 |
| gldm GrayLevelVariance | 0.22 | 0.20 | 0.23 | 0.26 | 0.19 | 0.23 | 0.24 | 0.20 | 0.22 | 0.23 | 0.21 | 0.20 | 0.20 |
| gldm HighGrayLevelEmphasis | 0.20 | 0.18 | 0.17 | 0.17 | 0.15 | 0.15 | 0.16 | 0.21 | 0.18 | 0.20 | 0.29 | 0.20 | 0.18 |
| gldm LargeDependenceEmphasis | 0.15 | 0.17 | 0.17 | 0.17 | 0.19 | 0.17 | 0.19 | 0.15 | 0.19 | 0.13 | 0.21 | 0.15 | 0.14 |
| gldm LargeDependenceHighGrayLevelEmphasis | 0.26 | 0.37 | 0.27 | 0.22 | 0.28 | 0.18 | 0.21 | 0.27 | 0.26 | 0.26 | 0.30 | 0.25 | 0.25 |
| gldm LargeDependenceLowGrayLevelEmphasis | 0.32 | 0.31 | 0.33 | 0.32 | 0.26 | 0.29 | 0.28 | 0.37 | 0.36 | 0.34 | 0.32 | 0.35 | 0.27 |
| gldm LowGrayLevelEmphasis | 0.37 | 0.34 | 0.28 | 0.38 | 0.38 | 0.30 | 0.27 | 0.36 | 0.38 | 0.37 | 0.34 | 0.47 | 0.40 |
| gldm SmallDependenceEmphasis | 0.10 | 0.15 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.10 | 0.14 | 0.09 | 0.17 | 0.10 | 0.10 |
| gldm SmallDependenceHighGrayLevelEmphasis | 0.17 | 0.20 | 0.26 | 0.27 | 0.17 | 0.18 | 0.18 | 0.17 | 0.19 | 0.23 | 0.21 | 0.19 | 0.24 |
| gldm SmallDependenceLowGrayLevelEmphasis | 0.39 | 0.37 | 0.39 | 0.39 | 0.43 | 0.34 | 0.37 | 0.48 | 0.40 | 0.36 | 0.36 | 0.50 | 0.46 |
| glrlm GrayLevelNonUniformity | 0.18 | 0.18 | 0.21 | 0.19 | 0.14 | 0.18 | 0.18 | 0.29 | 0.26 | 0.25 | 0.19 | 0.22 | 0.22 |
| glrlm GrayLevelNonUniformityNormalized | 0.12 | 0.12 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.13 | 0.14 | 0.11 | 0.13 | 0.12 | 0.10 |
| glrlm GrayLevelVariance | 0.22 | 0.21 | 0.23 | 0.26 | 0.18 | 0.23 | 0.24 | 0.20 | 0.22 | 0.23 | 0.21 | 0.20 | 0.21 |
| glrlm HighGrayLevelRunEmphasis | 0.20 | 0.18 | 0.16 | 0.17 | 0.15 | 0.15 | 0.17 | 0.21 | 0.18 | 0.20 | 0.29 | 0.20 | 0.18 |
| glrlm LongRunEmphasis | 0.02 | 0.04 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.04 | 0.02 | 0.02 |
| glrlm LongRunHighGrayLevelEmphasis | 0.22 | 0.27 | 0.17 | 0.21 | 0.17 | 0.15 | 0.17 | 0.24 | 0.19 | 0.20 | 0.30 | 0.22 | 0.19 |
| glrlm LongRunLowGrayLevelEmphasis | 0.37 | 0.31 | 0.23 | 0.36 | 0.39 | 0.29 | 0.27 | 0.38 | 0.37 | 0.36 | 0.35 | 0.41 | 0.38 |
| glrlm LowGrayLevelRunEmphasis | 0.37 | 0.34 | 0.28 | 0.36 | 0.38 | 0.30 | 0.26 | 0.38 | 0.37 | 0.37 | 0.33 | 0.46 | 0.38 |
| glrlm RunEntropy | 0.03 | 0.02 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.03 | 0.02 |
| glrlm RunLengthNonUniformity | 0.12 | 0.13 | 0.11 | 0.11 | 0.13 | 0.13 | 0.13 | 0.14 | 0.16 | 0.17 | 0.17 | 0.17 | 0.16 |
| glrlm RunLengthNonUniformityNormalized | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02 | 0.01 | 0.01 |
| glrlm RunPercentage | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| glrlm RunVariance | 0.14 | 0.21 | 0.19 | 0.18 | 0.18 | 0.19 | 0.16 | 0.13 | 0.19 | 0.18 | 0.25 | 0.17 | 0.15 |
| glrlm ShortRunEmphasis | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 0.01 |
| glrlm ShortRunHighGrayLevelEmphasis | 0.20 | 0.18 | 0.17 | 0.16 | 0.15 | 0.15 | 0.16 | 0.19 | 0.18 | 0.19 | 0.28 | 0.21 | 0.18 |
| glrlm ShortRunLowGrayLevelEmphasis | 0.37 | 0.34 | 0.29 | 0.35 | 0.39 | 0.30 | 0.26 | 0.37 | 0.37 | 0.37 | 0.34 | 0.46 | 0.38 |
| glszm GrayLevelNonUniformity | 0.16 | 0.17 | 0.11 | 0.17 | 0.19 | 0.15 | 0.15 | 0.17 | 0.16 | 0.14 | 0.19 | 0.20 | 0.17 |
| glszm GrayLevelNonUniformityNormalized | 0.11 | 0.09 | 0.11 | 0.11 | 0.08 | 0.10 | 0.10 | 0.09 | 0.11 | 0.10 | 0.09 | 0.11 | 0.09 |
| glszm GrayLevelVariance | 0.20 | 0.19 | 0.19 | 0.19 | 0.15 | 0.18 | 0.18 | 0.14 | 0.19 | 0.20 | 0.13 | 0.19 | 0.16 |
| glszm HighGrayLevelZoneEmphasis | 0.18 | 0.16 | 0.15 | 0.16 | 0.15 | 0.16 | 0.16 | 0.20 | 0.17 | 0.21 | 0.24 | 0.20 | 0.18 |
| glszm LargeAreaEmphasis | 0.32 | 0.45 | 0.38 | 0.38 | 0.36 | 0.26 | 0.31 | 0.31 | 0.38 | 0.32 | 0.58 | 0.30 | 0.38 |
| glszm LargeAreaHighGrayLevelEmphasis | 0.42 | 0.81 | 0.48 | 0.43 | 0.47 | 0.40 | 0.36 | 0.42 | 0.46 | 0.34 | 0.57 | 0.36 | 0.47 |
| glszm LargeAreaLowGrayLevelEmphasis | 0.46 | 0.44 | 0.38 | 0.49 | 0.28 | 0.31 | 0.36 | 0.46 | 0.55 | 0.41 | 0.47 | 0.28 | 0.37 |
| glszm LowGrayLevelZoneEmphasis | 0.37 | 0.28 | 0.32 | 0.38 | 0.42 | 0.29 | 0.29 | 0.36 | 0.32 | 0.37 | 0.35 | 0.49 | 0.37 |
| glszm SizeZoneNonUniformity | 0.22 | 0.27 | 0.23 | 0.21 | 0.24 | 0.22 | 0.22 | 0.23 | 0.26 | 0.20 | 0.27 | 0.22 | 0.23 |
| glszm SizeZoneNonUniformityNormalized | 0.08 | 0.10 | 0.11 | 0.09 | 0.12 | 0.10 | 0.10 | 0.10 | 0.10 | 0.09 | 0.12 | 0.08 | 0.10 |
| glszm SmallAreaEmphasis | 0.04 | 0.05 | 0.06 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.06 | 0.04 | 0.05 |
| glszm SmallAreaHighGrayLevelEmphasis | 0.17 | 0.17 | 0.18 | 0.20 | 0.13 | 0.14 | 0.15 | 0.16 | 0.15 | 0.18 | 0.22 | 0.19 | 0.24 |
| glszm SmallAreaLowGrayLevelEmphasis | 0.39 | 0.35 | 0.34 | 0.36 | 0.43 | 0.29 | 0.32 | 0.42 | 0.33 | 0.33 | 0.34 | 0.53 | 0.51 |
| glszm ZoneEntropy | 0.02 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 |
| glszm ZonePercentage | 0.09 | 0.15 | 0.13 | 0.13 | 0.12 | 0.10 | 0.12 | 0.09 | 0.12 | 0.10 | 0.17 | 0.10 | 0.09 |
| glszm ZoneVariance | 0.45 | 0.66 | 0.51 | 0.56 | 0.53 | 0.45 | 0.45 | 0.50 | 0.45 | 0.43 | 0.74 | 0.40 | 0.54 |
| ngtdm Busyness | 0.17 | 0.26 | 0.19 | 0.22 | 0.20 | 0.22 | 0.19 | 0.19 | 0.19 | 0.18 | 0.22 | 0.16 | 0.19 |
| ngtdm Coarseness | 0.13 | 0.14 | 0.14 | 0.14 | 0.16 | 0.13 | 0.12 | 0.18 | 0.16 | 0.17 | 0.18 | 0.19 | 0.18 |
| ngtdm Complexity | 0.19 | 0.16 | 0.18 | 0.20 | 0.16 | 0.18 | 0.18 | 0.21 | 0.16 | 0.16 | 0.20 | 0.17 | 0.18 |
| ngtdm Contrast | 0.30 | 0.36 | 0.34 | 0.36 | 0.24 | 0.22 | 0.26 | 0.25 | 0.28 | 0.26 | 0.29 | 0.30 | 0.29 |
| ngtdm Strength | 0.20 | 0.22 | 0.22 | 0.21 | 0.18 | 0.16 | 0.14 | 0.13 | 0.17 | 0.16 | 0.18 | 0.15 | 0.20 |

Table ST11: Median values of the relative difference between the values of the feature ratios (tumour over muscle) computed in images with 2mm and 5mm slice thickness ($\Delta_{\rho,r}$), across different non-extreme voxel size resampling and interpolation method. Values $\Delta_{\rho,r} \geq 0.5$ are shown in red.